INSTALLATION/OPERATION

PMCD750 DLP™ Display

50-Inch Rear Projection Display

C2928M (7/05)

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Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the points where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. Apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases shall be placed on the apparatus.
16. **WARNING:** To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.
17. Installation should be done only by qualified personnel and conform to all local codes.
18. Unless the unit is specifically marked as a NEMA Type 3, 3R, 3S, 4, 4X, 6, or 6P enclosure, it is designed for indoor use only and it must not be installed where exposed to rain and moisture.
19. Use only installation methods and materials capable of supporting four times the maximum specified load.
20. A readily accessible disconnect device shall be incorporated in the building installation wiring.
21. The socket-outlet shall be installed near the equipment and shall be easily accessible.
22. **CAUTION:** These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other that contained in the operating instructions unless you are qualified to do so.
23. Only use replacement parts recommended by Pelco.
24. **WARNING:** The lamp needs 15,000 volts to start.
25. **WARNING:** There is no electrical interlock on the screen. Opening the screen does not turn off the high voltage to the lamp.
26. **CAUTION:** The lamp gets very hot. Allow it to cool before removing it.
27. **CAUTION:** The lamp produces UV (ultraviolet) radiation that can cause retinal damage. Although very bright, the light exiting the optical engine contains no significant UV radiation.
28. **CAUTION:** Static electricity can damage sensitive electronic components.
    - Always use a grounding strap connnected to an approved ground when handling the optical engine or electronics module.
    - When shipping these parts, do not use styrofoam packing material. This can carry static electricity and damage the components. Use an antistatic bag or ESD (Electrostatic discharge) protective wrap.

The product and/or manual may bear the following marks:

This symbol indicates that dangerous voltage constituting a risk of electric shock is present within this unit.

This symbol indicates that there are important operating and maintenance instructions in the literature accompanying this unit.

CAUTION:
RISK OF ELECTRIC SHOCK. DO NOT OPEN.

Regulatory Notice

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

RADIO AND TELEVISION INTERFERENCE

This equipment has been tested and found to comply with the limits of a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Changes and Modifications not expressly approved by the manufacturer or registrant of this equipment can void your authority to operate this equipment under Federal Communications Commission's rules.

In order to maintain compliance with FCC regulations shielded cables must be used with this equipment. Operation with non-approved equipment or unshielded cables is likely to result in interference to radio and television reception.

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

Overview

DESCRIPTION

The PMCD750 DLP™ display is a 50-inch rear projection monitor that combines the best features of direct view and rear projection technology. It uses Digital Light Processing (DLP) technology to deliver high color performance and brightness in a zero-mullion, high definition format that is ideal for creating video walls.

The PMCD750 DLP display is designed for use in multidisplay towers and walls requiring seamless images, or it can be used as a stand-alone display. The PMCD750 DLP display is the perfect alternative to CRT monitors. Setup is made easy with the use of a hand-held remote control.

PARTS LIST

Qty	Description
1	Screen support for each unit on the bottom row; includes bolts (shipped per order, not per display)
2	6-32 x 3/8-inch screw
2	1/4-20 x 3.5-inch bolt
2	1/4-20 x 2-inch bolt
2	1/4-20 x 3/8-inch bolt
8	Flat washers
4	Wing nuts
2	Suction cups
1	VGA cable
1	DVI cable
1	AC power cord
1	Remote control (with batteries installed)
6 (or more)	Screen shims

Installation

UNPACKING

Unpack the PMCD750 unit. The screen is not needed yet and should be left in its container at this time.

ASSEMBLING THE CHASSIS

⚠ **WARNING:** The chassis weighs 65 lb (29.5 kg). Two people are required to handle and position the display safely.

INSTALLING A STAND-ALONE UNIT

Attach the screen support to the front edge of the chassis with supplied screen support bolts. The screen support mounts only one way. It incorporates a stop (rest) for the screen.

BUILDING A WALL – FIRST ROW

Straightness of the PMCD750 display is critical because the screens have no mullion (outside screen border). The advantage of this design is that the finished wall will have virtually no black lines between images on the screens.

⚠ **WARNINGS:**

- A chassis weighs 65 lb (29.5 kg). When assembling a wall, two people are required to handle and position the display safely .
- Do not put the screens on yet. If the first row is not straight, the misalignment will worsen as the wall goes up and the screens will not align properly.
- If you are constructing the wall at ground level, choose a site that is as flat as possible to avoid gaps between the screens in the wall.

To build the first row, do the following:

1. Set the first row of PMCD750 units side by side without the screens. Bolt them loosely together through the bottom connection points with the 1/4-20 x 3.5-inch bolts, washers, and wing nuts. Refer to Figure 1.
2. Attach the screen supports to the front edge of the first row with the supplied screen support bolts, which were shipped with the support when ordered. The screen support mounts only one way and is used on the bottom row only. It incorporates a stop (rest) for the bottom screens. Refer to Figure 1.

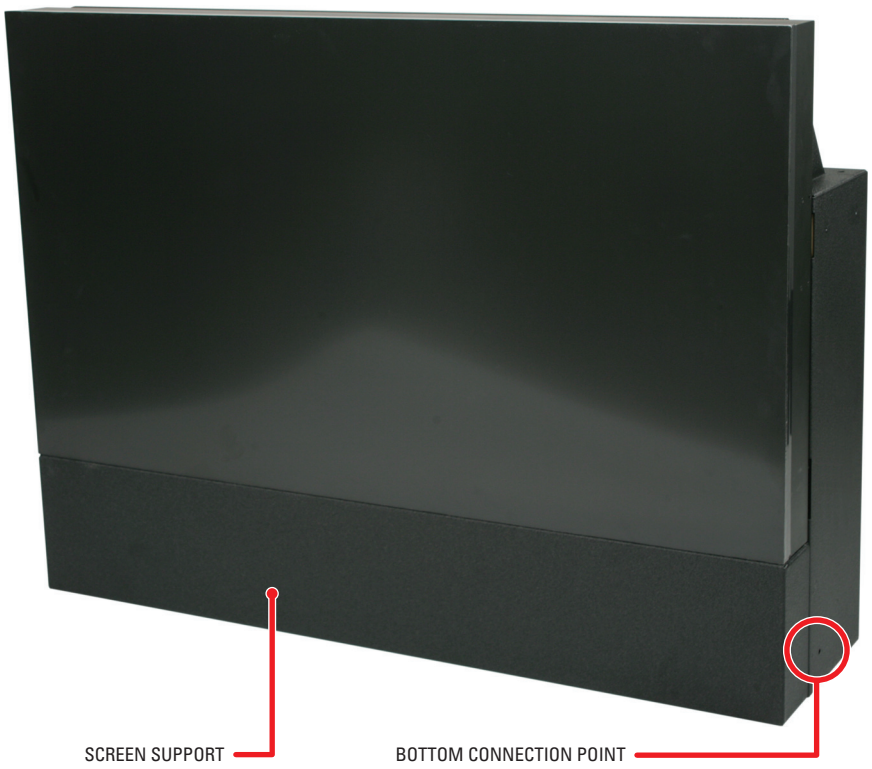


Figure 1. Mounted Screen Support and Bottom Connection Point

3. Check the first row for horizontal straightness by making sure the front and top edges of adjacent units are flush. If necessary, use shims under the units to make sure the top edges of adjacent units are flush.

⚠ **WARNING:** It is important to ensure that each unit in the first row is level on all planes and resting firmly on its own support before tightening the units together. The 1/4-20 x 3.5-inch bolts are not capable of supporting the weight of a wall and should not be used to level the first row.

4. When the first row is straight horizontally and vertically, tighten the bolts holding the units together.

5. Verify the straightness of the row again. Make any necessary adjustments to ensure that the first row is straight horizontally and vertically prior to building subsequent rows.

BUILDING A WALL – SECOND ROW AND UP

⚠ **DANGER:** Because the PMCD750 unit has a narrow front-to-back profile, the danger of tipping exists with high walls. For walls over two units high and all tilted walls, use the four tie-back points (1/4-20 threaded holes) on the rear of the unit to secure the video wall to a structural part of the building. If the wall is tilted forward, tie the wall all the way up. Do this as the wall is being built up; do not wait until the wall is finished. Pelco does not provide any special brackets to secure the PMCD750 unit. The method to use is best determined on site due to the many variables to consider, and must be capable of sustaining five times the weight of each PMCD750 unit – a total of 340 pounds (154 kilograms) per unit.

Figure 2. Tie-back Connection Points

After verifying that the first row is straight and solid, continue building the wall. To continue building the wall, do the following:

⚠ **WARNING:** The maximum stack height for a wall is four units.

1. Stack another row of PMCD750 units on the first row. As you stack, be careful inserting the alignment pins on the second row chassis into the alignment holes on the lower unit. Refer to Figure 3.

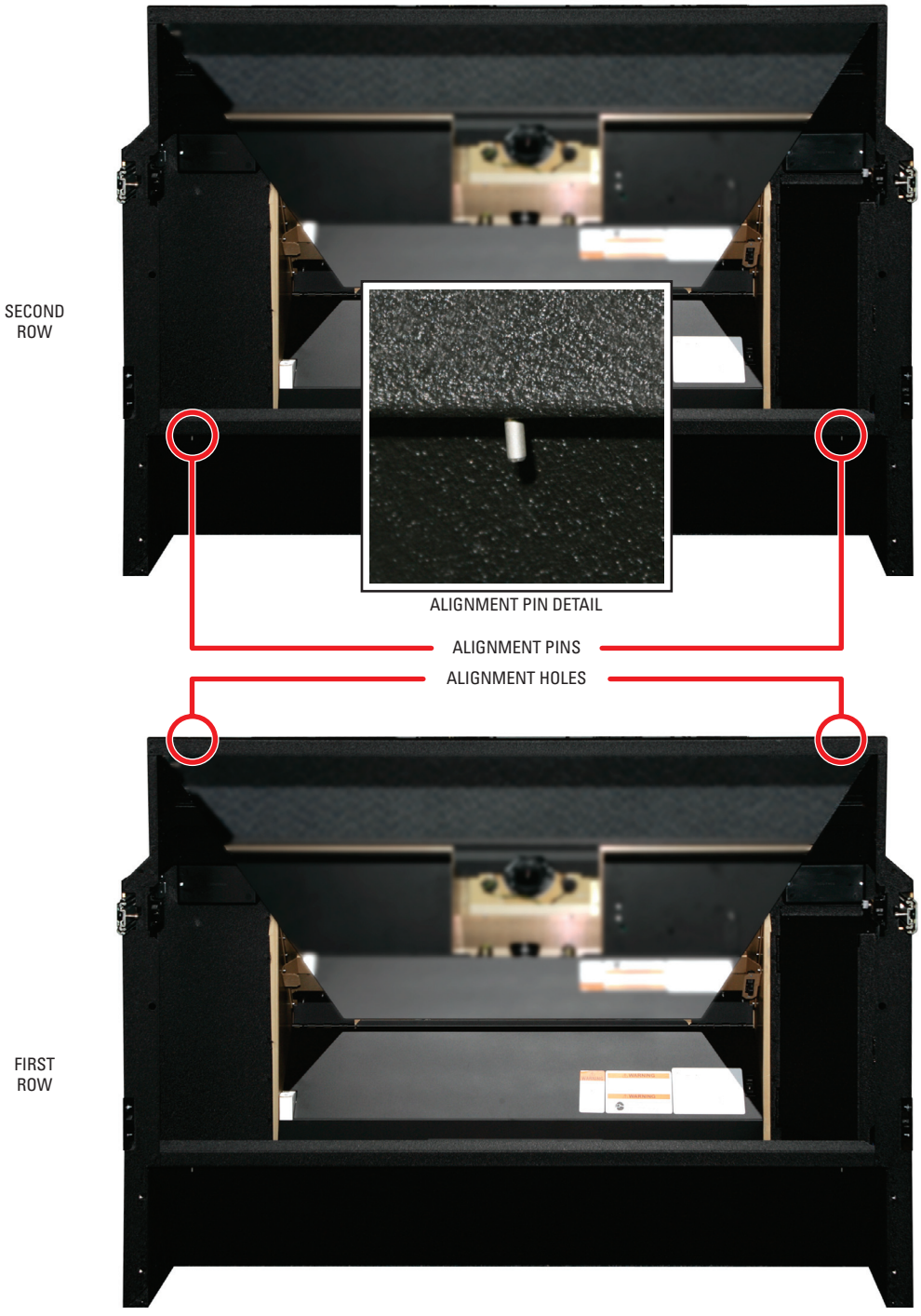


Figure 3. Alignment Pin Locations

2. As each unit is placed in the second row, secure it to the front of the lower unit with two 6-32 x 3/8-inch screws. Refer to Figure 4.

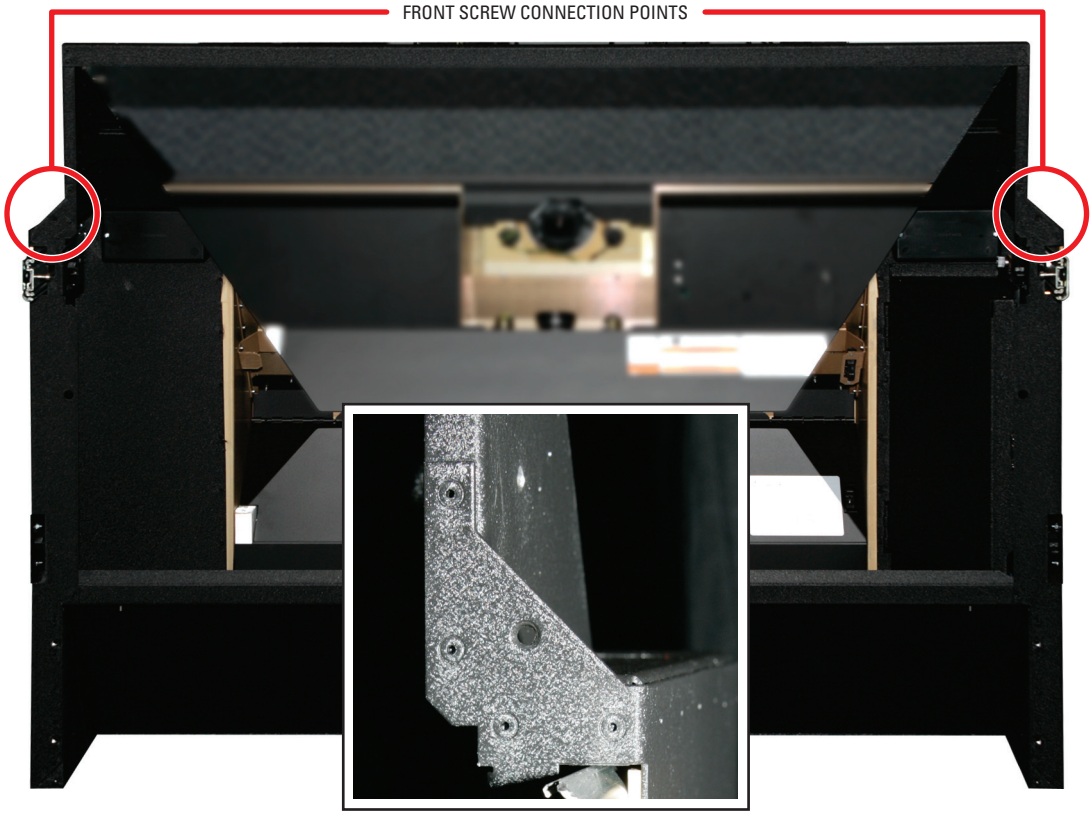


Figure 4. 6-32 Front Screw Securing Locations

3. Bolt the PMCD750 units together vertically through the vertical connection points using the 1/4-20 x 3/8-inch bolts. Refer to Figure 5.
4. Bolt the PMCD750 units together through the bottom connection points the same as the first row.
5. Bolt the PMCD750 units together through the horizontal connection points using the 1/4-20 x 2-inch bolts, washers, and wing nuts. Refer to Figure 5.
6. Check the straightness of the second row.
7. Continue in this way with the rest of the rows, checking straightness as each row is completed.

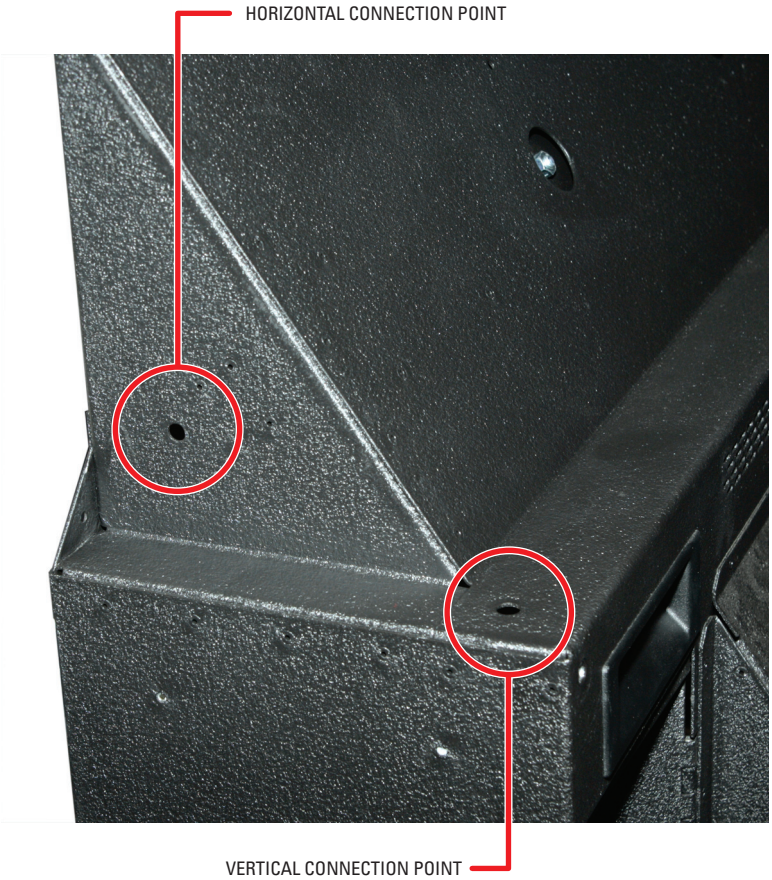


Figure 5. Vertical and Horizontal Connection Points

BUILDING AN INVERTED BANNER

It is possible to hang a single row of PMCD750 units upside down to make a banner.

Pelco does not provide any special brackets to hang a PMCD750 unit upside down. The method to use is best determined on site due to the many variables to consider. The ceiling and method used must be capable of sustaining five times the weight of each PMCD750 unit – a total of 340 pounds (154 kilograms) per unit.

The screen supports, which normally hold screens up, will now be above the row of screens. You may wish to devise a way to push the screens up from the bottom to press them against this support to prevent a gap. It is not necessary to use the screen support parts in an inverted installation. The screen supports can be used to cover part of the unit, but they are unnecessary in the inverted configuration.

For inverted operation, the picture and menus must be inverted. Refer to the *Changing the Picture and Menus* section.

CONNECTING ANALOG AND DIGITAL SOURCES

The PMCD750 will accept video input from devices with VGA or DVI output. Video source devices with either or both of these output types can have their images displayed on the PMCD750.

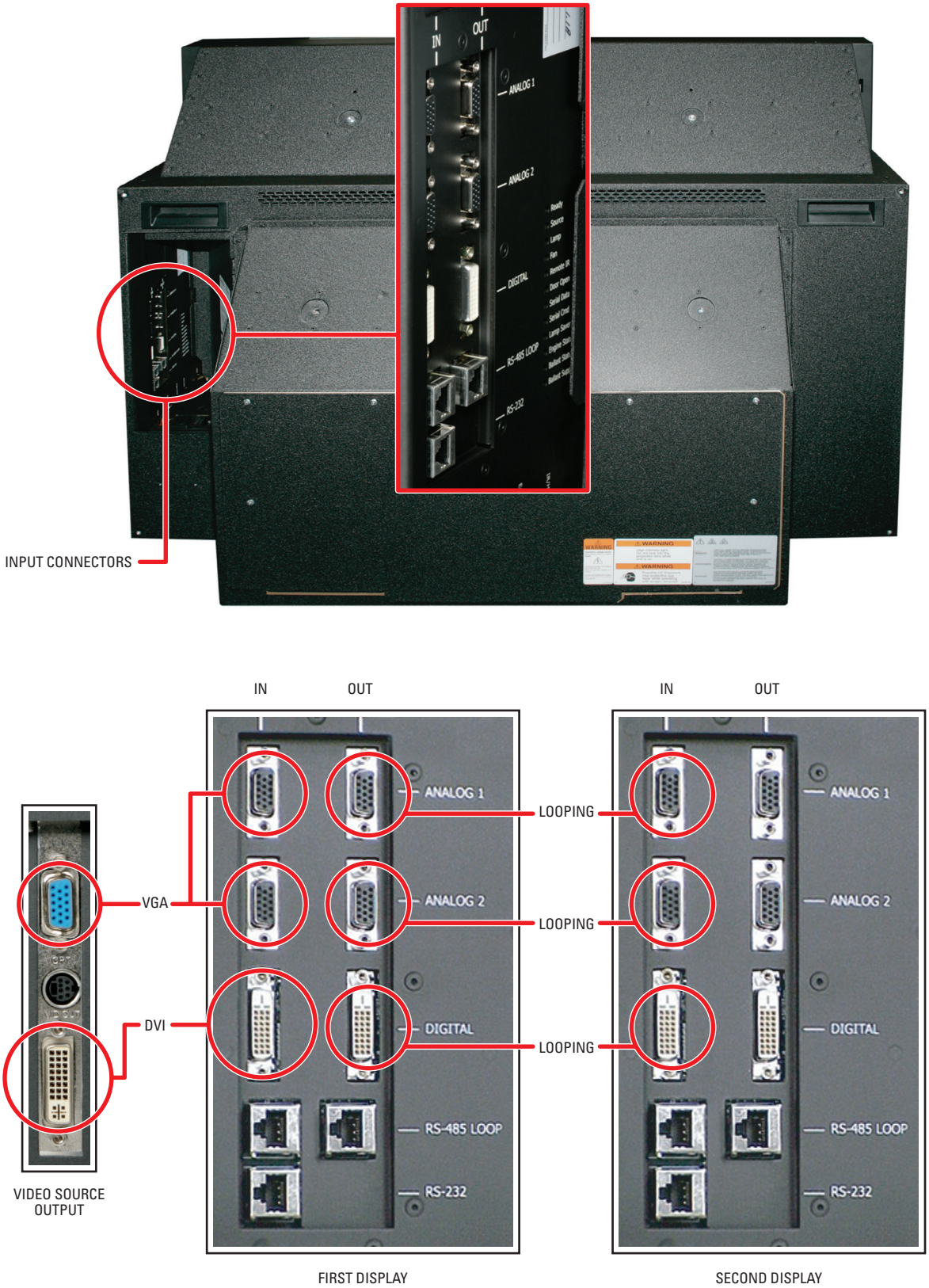


Figure 6. Input Panel Connections (Rear View)

For stand-alone units, connect the video input to the Analog 1, Analog 2, or Digital In input. Multiple inputs can be connected simultaneously. Refer to Figure 6.

For wall systems, connect the video input to the Analog 1, Analog 2, or Digital In input. Multiple inputs can be connected simultaneously. Loop the video out from the first display to the input connector of the second display. Continue looping until all displays are connected.

If you used an analog input on the first display, you can loop the video to the other displays using the anlog inputs and outputs. However, the Digital Out connector carries video from the analog inputs as well as the digital input. For improved image quality it is recommended that analog video from the first display be looped using the digital connectors.

All of the video inputs have buffered loop-through output connectors.

Analog 1 and Analog 2 are 15-pin VGA-type connectors. The PMCD750 will accept a wide range of computer inputs with resolutions up to 1600 x 1200 and 1920 x 1080. Each of these connectors has a dedicated loop-through output. These connectors are also used for RGB video with separate horizontal and vertical sync, composite sync, or sync on green; also for YPbPr video at 480p, 720p, or 1080i.

When an analog input has a source with sync on green or composite sync, the DVI Out may not show the picture properly. If the source is present at power up, it typically works well, but if the source is disconnected and then reconnected, the DVI loop-through stops working for these two types of sync.

Digital In is a standard DVI cable input. It has a loop-through, but the Digital Out connector is not dedicated exclusively to the Digital In connector. Instead, the Digital Out connector carries the picture of the currently selected input. For instance, if the Analog 1 connector is selected, the picture on the Digital Out connector is a DVI version of that Analog 1 picture.

LOOP-THROUGH LIMITS

A signal cannot loop-through indefinitely due to degredation of the signal as it progresses through the loop. Depending on the strength of the signal, the loop-through limit is four units for digital (DVI) signals, and twelve units for analog (VGA) signals. When a loss of signal is experienced due to loop-through degredation, a distribution amplifier can be used to compensate.

CONNECTING RS-232 AND RS-485 CONTROL

With serial control, you can control a stand-alone unit, a whole wall, several walls, and any single display in a wall.

To connect an external controller, refer to Figure 7 and do the following:

1. Using a straight-through computer serial cable, connect the RS-232 input of the stand-alone unit or the first unit in the wall to the serial out port of the external control device, such as a video controller.
2. Connect this first display's RS-485 Out to the next display's RS-485 In.

NOTES:

- For best results, the RS-485 cables should be twisted pair. The pairs are pins 3 and 6 (signal) and pins 1 and 2 (ground). Cat5 cable has the correct twisted pairs.
- For very long runs of RS-485 cable, it may be necessary to terminate the last PMCD750 unit in the loop. To terminate the last unit, refer to the *Controlling with RS-232/RS-485 Interface* section.

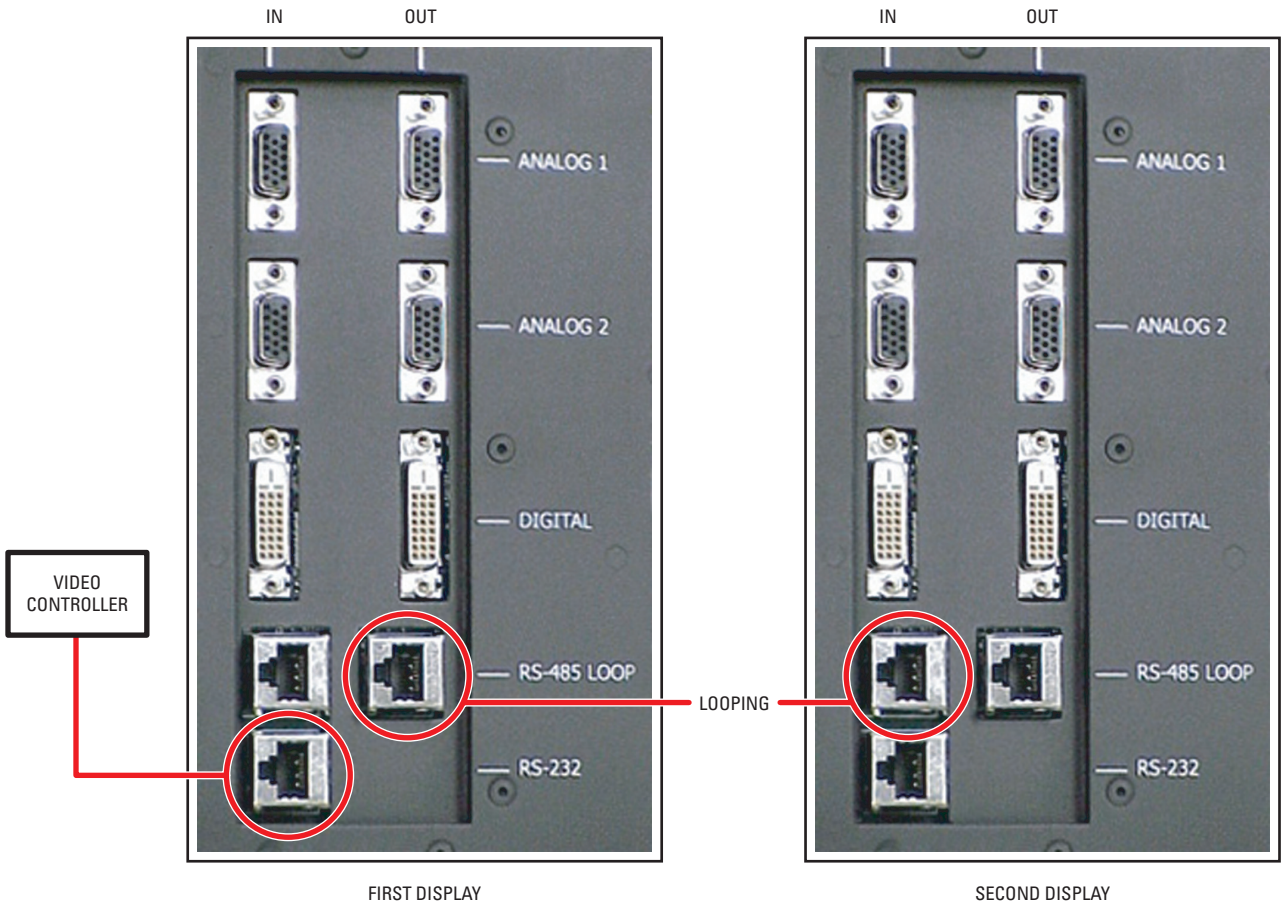


Figure 7. RS-232 and RS-485 Connections

INSTALLING SCREENS

The PMCD750 screens in a wall are quite close together, so the order in which they are installed in a wall is very important.

⚠ **WARNING:** Do not install any screen until reading and understanding this section. If screens are installed improperly, they may be damaged.

To install a screen on a stand-alone unit, follow the instructions in steps 2a, 2b, and 2c.

1. Verify that the wall of PMCD750 units is straight and that the corners are square by measuring the diagonals of the whole wall. If the diagonals are equal, the wall is a perfect rectangle.
2. To install the PMCD750 screens, start in the middle of the bottom row and install that screen. The screen supports should be installed on the bottom row of PMCD750 screens.
    a. Pull the screen rails all the way out on both sides of the PMCD750 chassis. The screen rails each have a large pin that mates with the L-shaped slot located on each side of the screen. Refer to Figure 8.
    b. With one person holding each side, hang the screen so that the pins on the screen rails go into the L-shaped slots on the sides of the screen. Refer to Figure 9.
    c. Slide the screen closed, lifting it slightly to avoid scraping on the screen support below.

Figure 8. Screen Rails

Figure 9. L-Shaped Screen Slot

3. Install the screens to the left and right of the center screen to complete the bottom row. After adding a screen, press it toward the center.
4. Check the line of this bottom row of screens. If they are not straight, use shims on the top of the screen support until the screens are straight.
5. Starting in the second row and working up, install all remaining center screens. Lift each screen and press it in so that it does not scrape on the screen below. Continue until you reach the top.
6. Working upward and outward, finish all the rows.
7. Perform a final check of screens for alignment with each other. The horizontal and vertical spaces between each screen should form straight lines where they intersect.

CONNECTING POWER

NOTE: The use of an uninterruptible power supply (UPS) manufactured by Powerware, Model PW9120 700i, or equivalent, is required to comply with EMC Directive 89/336/EEC.

To apply power to the display:

1. Bring in AC power next to the electronics module. Connect the power to the receptacle located on the rear panel. The voltage can be 115 VAC (90–132 VAC) or 230 VAC (200–254 VAC). Refer to Figure 10.

⚠ **WARNING:** Do not exceed the recommended number of PMCD750 units linked in series for AC power or the current draw will be too great.

2. The AC power can be looped through to the next PMCD750 unit, resulting in fewer main outlet sockets needed for operation. The total number of units in one power loop cannot exceed four (115 VAC) or eight (230 VAC) units.

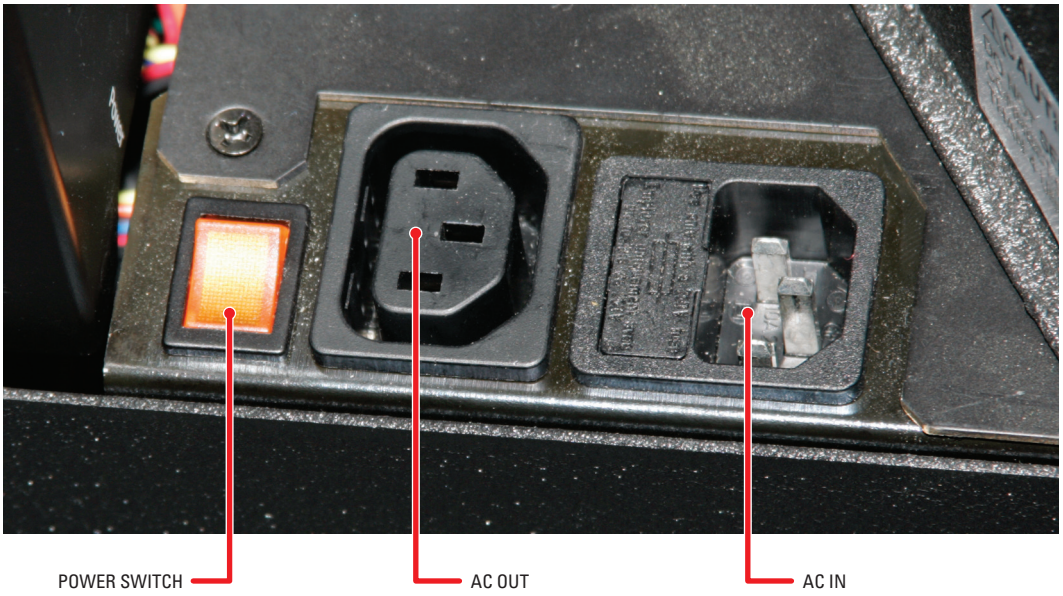


Figure 10. Power Switch and Receptacles

3. Turn on the power switch for each display. When AC power is applied, there are a few seconds of apparent inactivity in which the electronics module begins start up and initialization. Next, if the optical engine is warm, the intake and lamp fans start. Because the service life of the lamp can be significantly shortened if turned on when hot, the lamp cannot be turned on during this time. The lamp fan runs for approximately one minute to ensure the lamp is cool. If the temperature sensor on the optical engine determines that the lamp is sufficiently cool at power up, this cool-down period is skipped.

NOTES:

- The AC switch on each PMCD750 unit controls that display only. Turning off the switch on any display does not cut the AC power to the other displays. The switch is lit when it is ON and there is AC power to the PMCD750 unit.
- The AC input is fused with a 10 A fuse. If the fuse in any PMCD750 unit blows, all displays downstream from this one will go off.

Alignment and Adjustment

ALIGNING THE OPTICAL ENGINE

The optical engine must be adjusted to aim the picture accurately at the screen. Although the optical engine was perfectly adjusted when the PMCD750 unit left the factory, vibration along the way may have moved it. It is important to check this mechanical adjustment of the optical engine before any electronic adjustments are made to the picture.

The following procedure is required for a stand-alone unit and all units in a wall system.

To align the optical engine, refer to Figure 11 and do the following:

1. Open the Main Menu by pressing the MENU button on the remote control.
2. Using the ▼ button on the remote, scroll down to Advanced Options, and then press the + button on the remote.
3. Scroll down to Engine Alignment, and then press +.
4. Scroll down to Test Pattern.

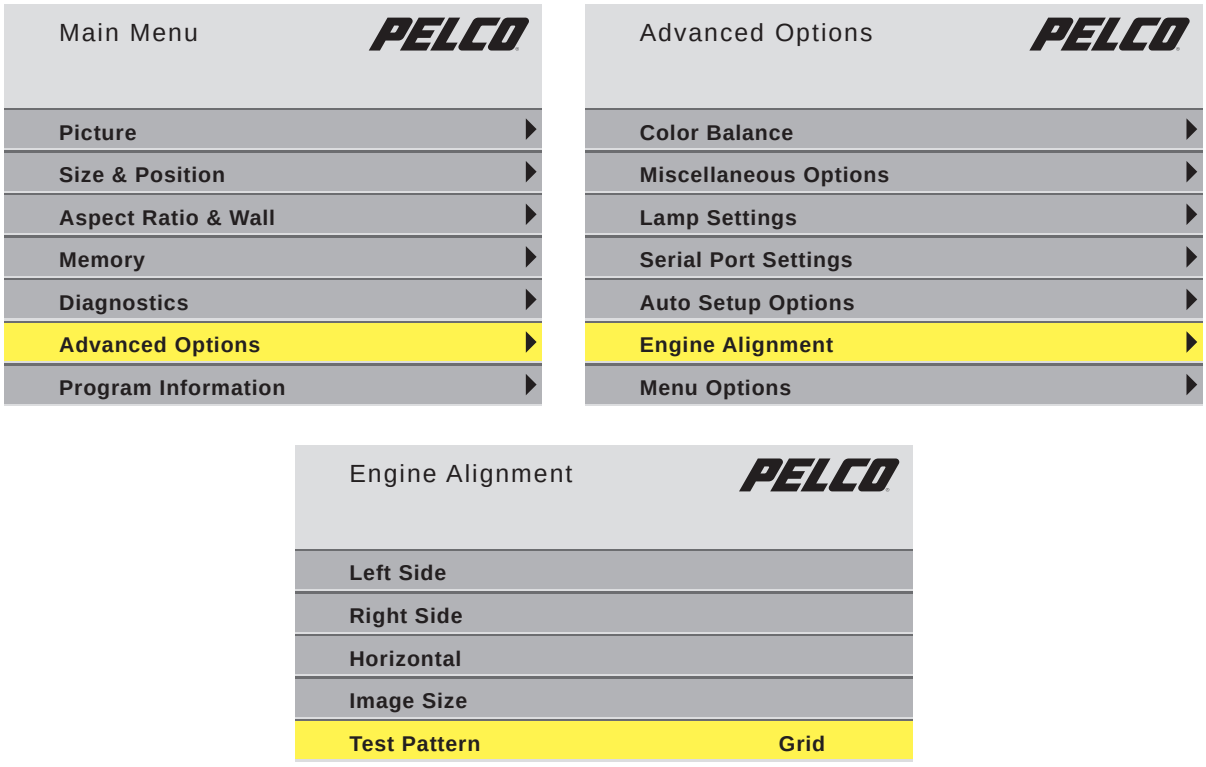


Figure 11. Test Pattern

5. Press the ENTER button on the remote control until Grid appears. A grid pattern will fill the screen. Refer to Figure 12.

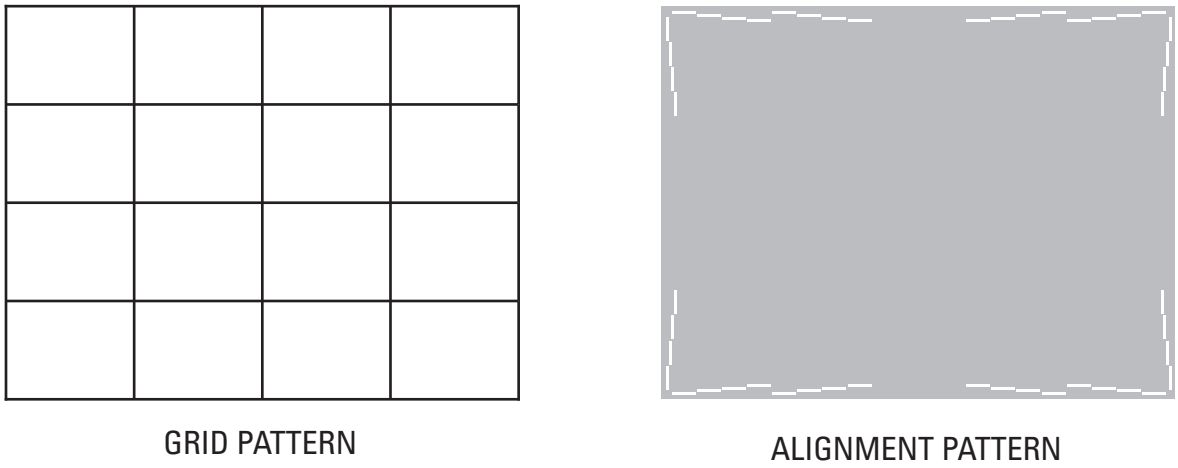


Figure 12. Grid and Alignment Test Patterns

6. To position the grid pattern to the center of the screen:
   a. Use the ▲ button to scroll up to Left Side.
   b. Press the + button to adjust the left side of the image up.
   c. Press the – button to adjust the left side of the image down.
   d. Scroll down to Right Side. Perform steps b and c to adjust the image position up and down.
   e. Scroll down to Horizontal. Perform step b (entire image moves right) and c (entire image moves left) as necessary. When the maximum level of adjustment is reached, the image will tilt up or down slightly.
7. Scroll down to Test Pattern.
8. Press ENTER twice. The screen will be filled with the Alignment pattern that shows the last six pixels at each edge. Refer to Figure 12.
9. To size the Alignment pattern on the screen:
   a. Scroll up to Image Size.
   b. Press the + button (to enlarge) and – button (to reduce) the image size so that the pattern has equal amounts of pixels visible at each edge. It is normal for a small amount of curvature (barrel or pincushion distortion) to be present at the edges. There will be no more than one pixel of curvature along any edge.

NOTES:

- Hiding one pixel on all sides is optimal. Try to hide at least one pixel per side, but no more than three.
- The Image Size control may affect the rotation or position of the image. Going back and forth between the Grid and Alignment procedures will ensure the best adjustment.

10. Press the MENU button on the remote to close the menu.

CHANGING THE PICTURE AND MENUS

Each PMCD750 unit in an inverted wall must have the image and the menus inverted. Refer to Figure 13 and do the following:

1. Press the MENU button on the remote control.
2. Scroll down to Advanced Options.
3. Press + on the remote.
4. Scroll down to Miscellaneous Options, and then press +.
5. Scroll down to Inverted Installation.

6. Press ENTER on the remote. A checkmark appears next to the selection and the picture and menus are inverted. The left-right of the optical engine alignment motors are also reversed to make the left-right orientation correct for viewing.

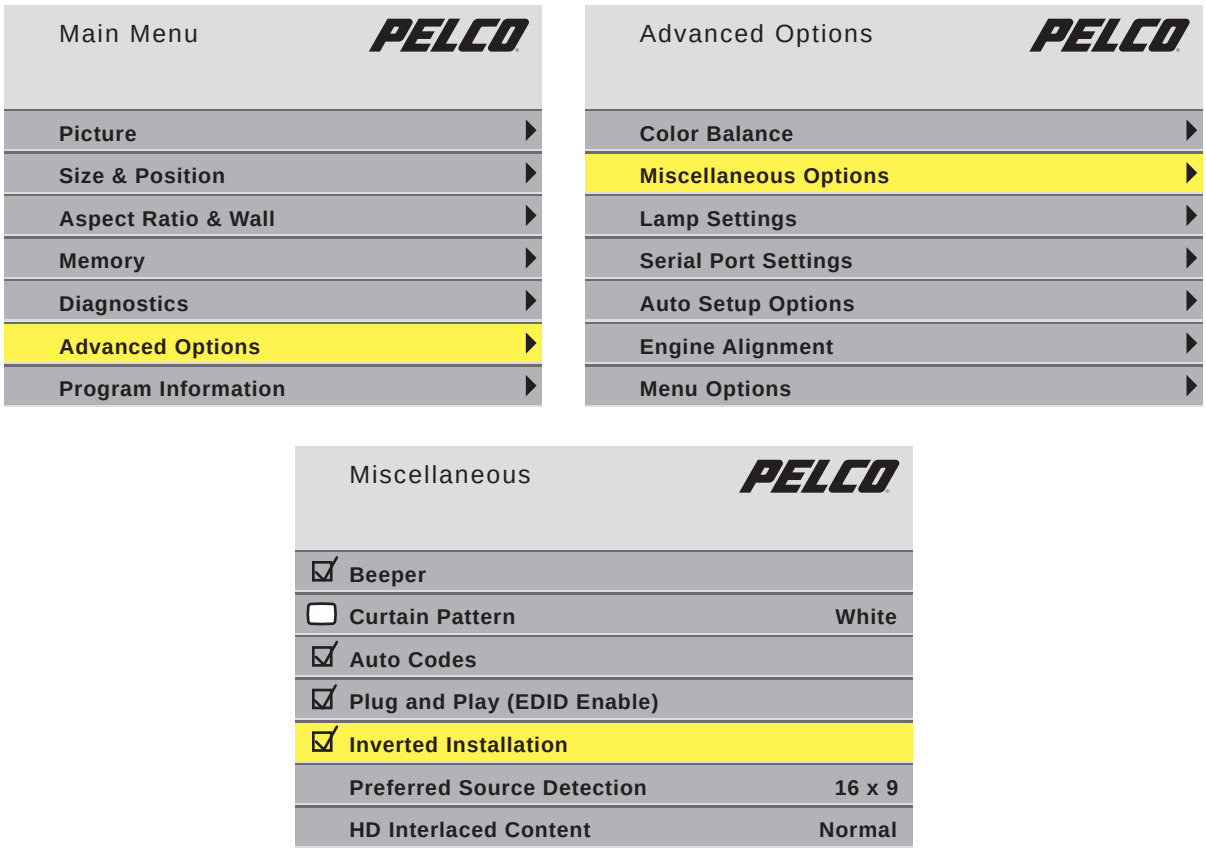


Figure 13. Inverted Installation

ADJUSTING ANALOG 1 AND ANALOG 2 INPUT

Displays differ from one another because of very small differences in the color of the light produced by the lamp and by differences in the dyes used to make the color in a DLP optical engine. Adjusting all the displays in a wall ensures that the image produced will be uniform in appearance.

INPUT LEVEL ADJUSTMENT, AUTOMATIC

NOTE: For superior results, semiautomatic adjustment of the black and white levels is recommended. Refer to the *Input level Adjustment, Semiautomatic* section.

To set the Auto Setup functions, refer to Figure 14 and do the following:

1. Press MENU on the remote.
2. Scroll down to Advanced Options, and then press +.
3. Scroll down to Auto Setup Options, and then press +.
4. Scroll down to Do Black/White Levels, and then press ENTER to select it.

   The following functions have been preselected:

   Retry on lost signal: If video is lost on the current input, the display will search for and display video from another input.

   Do Frequency: This feature automatically adjusts the frequency of the electronics module to match the frequency of the video signal.

   Do Phase: This feature automatically adjusts the phase of the electronics module to match the phase of the video signal.

   Do Position: This feature puts the upper left pixel of the picture in the upper left corner of the screen.

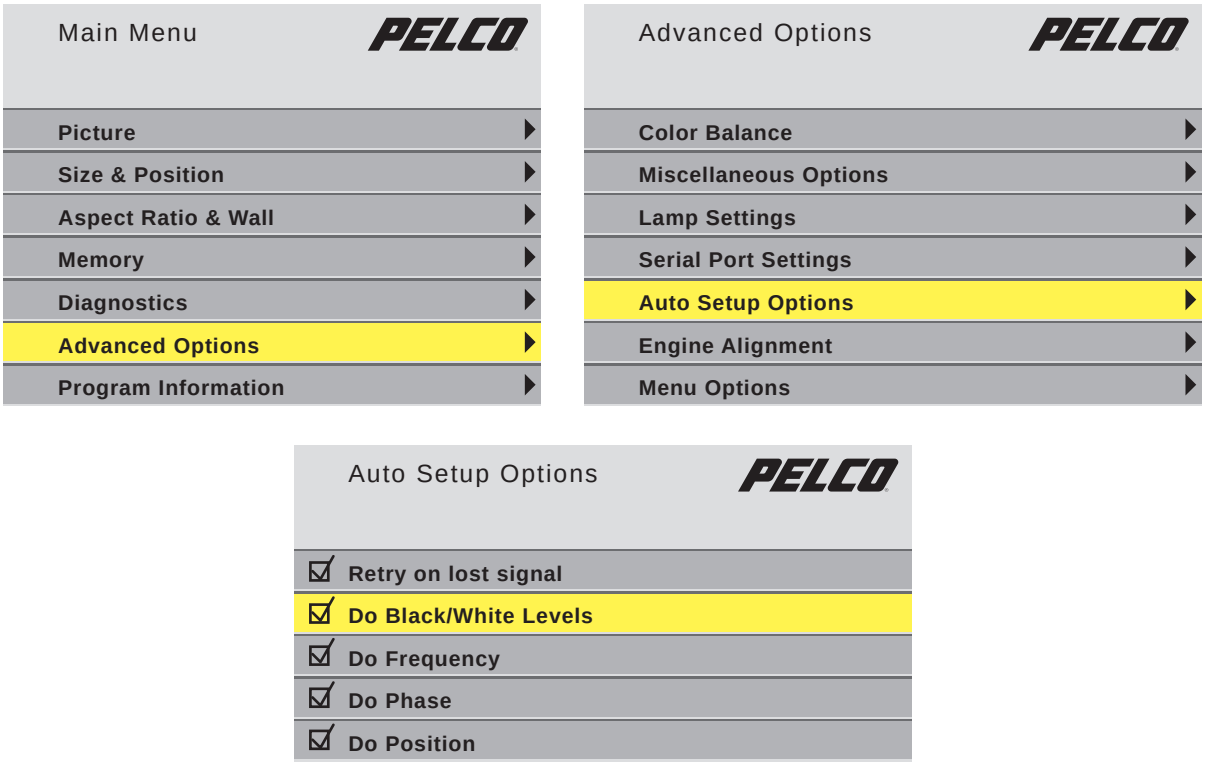


Figure 14. Auto Setup

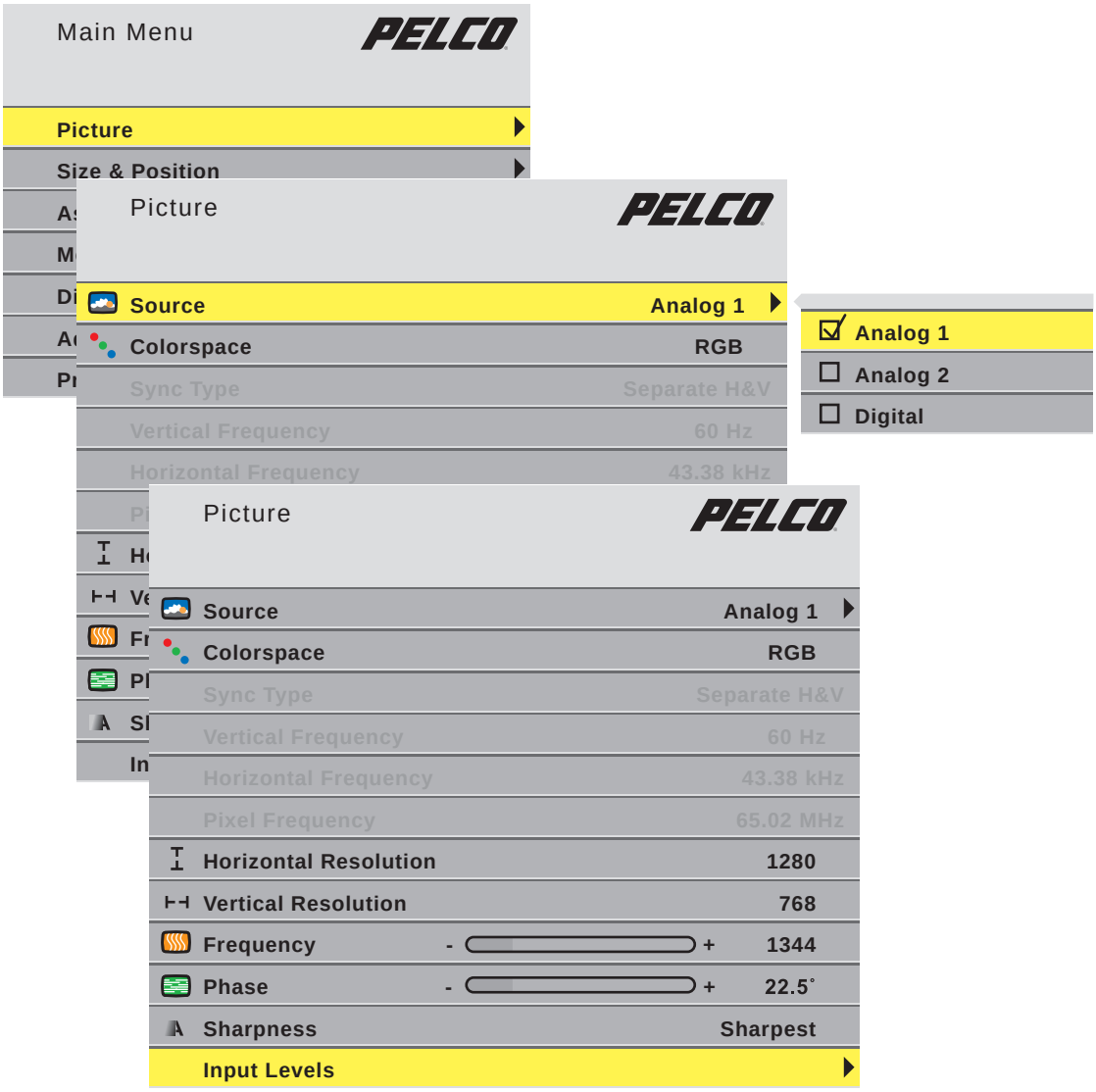
5. Press MENU to close the menu.
6. Press SETUP on the remote control. The display will now perform an automatic adjustment of the black and white levels, as well as all of the other functions selected in the Auto Setup Options menu.

INPUT LEVEL ADJUSTMENT, SEMIAUTOMATIC

NOTE: When the source image controller used for adjustments is changed, the associated input will require readjustment to the new source.

To adjust each PMCD750 input level, refer to Figure 15 and do the following:

1. Display a black image. A black screen image can be created in many graphics software. The source used for these adjustments must be the same source that is going to be used regularly to display images.
2. Press the MENU button on the remote control.
3. Scroll down to Picture and then press +.
4. Scroll to Source and then press +.
5. Scroll to either Analog 1 or Analog 2, relative to the input being used, and then press ENTER. This will display the input source on the screen and all adjustments made will affect this input.
6. Scroll down to Input Levels, and then press +.
7. Scroll to Auto Black Level, and then press ENTER.
8. Display a white image from the controller.
9. Scroll to Auto White Level, and then press ENTER.
10. Press MENU to close the menu.



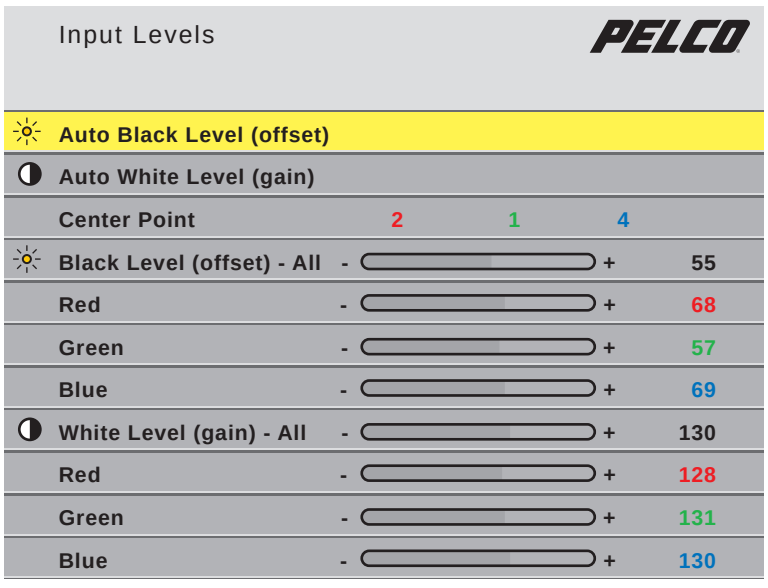


Figure 15. Input Level Adjustment

COLOR BALANCING A WALL OF PMCD750 DISPLAYS

Color balancing will make the individual units within a wall show uniform colors. This can be performed before or after adjustment of the input levels.

The following procedure is required for all units in a wall system.

To adjust the color balance for a wall, refer to Figure 16 and do the following:

1. Make sure the lamps in each unit have warmed up for at least five minutes. The lamps must be thoroughly warm before color balancing.
2. For each display, press MISC once on the remote.

NOTE: If the wall has never been color balanced, make sure you start with the same color temperature setting on each display. If you are not interested in achieving a specific color temperature, use the default of 8500°K, which is the brightest. If the display has been color balanced before, it will display Custom in the Color Temperature setting, because the balance values do not match any of the preset color temperatures.

3. Scroll down to Color Temperature. Press ENTER on the remote to choose one of the color temperatures. The choices are 3200°K, 5500°K, 6500°K, and 8500°K.
4. Scroll down to Gamma. Press ENTER to change this setting to Video (optimal brightness) or Film (deeper reds). Use the same setting for all displays in the wall.
5. Scroll down to White Boost. Press ENTER to change this setting to Off.
6. Scroll up to Test Pattern. Press ENTER to change the setting to White.

NOTE: Always use the internal test patterns for color balancing, not an external pattern.

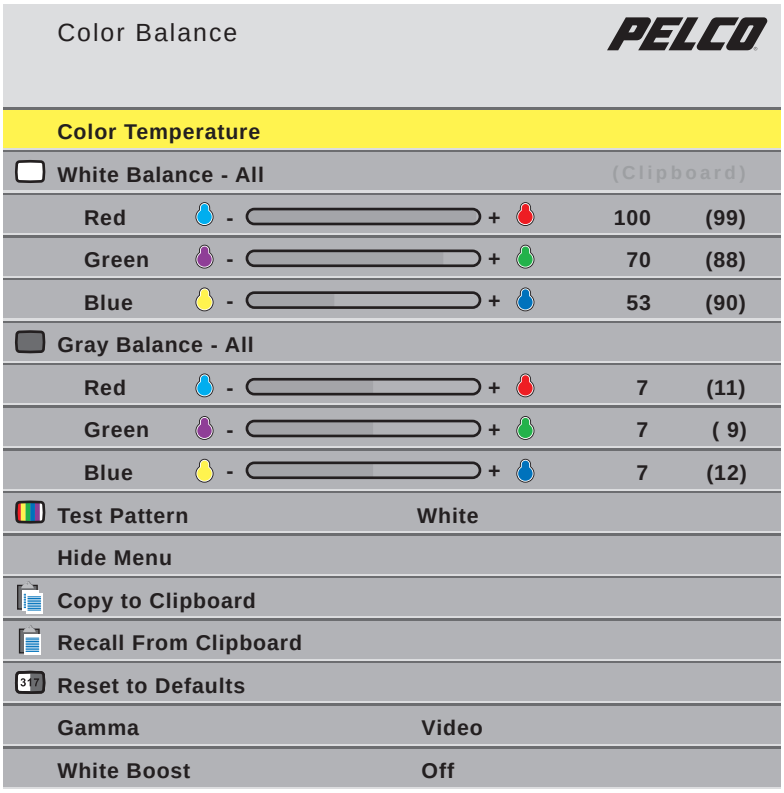


Figure 16. Color Balancing

7. Check the color balance values for all displays. All white balance values should be 100, and all Gray balance values should be 7. If any of these values vary from these levels, scroll down to Reset to Defaults and then press ENTER on the remote. This is the correct starting point for color balancing.
8. On each display, scroll down to Hide Menu and then press ENTER. This will remove all menus so that the entire wall can be seen as a whole. To reopen the Color Balance menu, aim the remote at the desired display and then press ENTER.

9. Look at all the displays together. Stand far enough away from the wall so that you are looking almost squarely at all of them. Pay attention to the large central area, not the edges.
10. Find the darkest display. This will serve as the baseline display for adjusting all of the displays in the wall. Do not change any settings on this display.
11. Choose a display next to, above, or below the baseline display. This will serve as the variable display.

NOTE: To avoid activating another display within the wall, stand within 18 inches (46 cm) of the target display when using the remote.

12. Point the remote directly at the screen, press ENTER to open the Color Balance menu, and then do the following:
    a. Scroll to White Balance-All. Press the – button on the remote to reduce the brightness until it matches the baseline display.
    b. Scroll down to Red. Press the + and – buttons on the remote to adjust the amount of red in the image to match that of the baseline display.
    c. Scroll down to Green and repeat adjustments from step b.
    d. Scroll down to Blue and repeat adjustments from step b.
    e. To save all of the current settings to a temporary memory, scroll down to Copy to Clipboard and then press ENTER. Further adjustments can be made to try to improve the image, but if they do not improve the image, scroll down to Recall From Clipboard to restore the previously saved settings.

NOTE: The clipboard is only for testing. These values are not saved when AC power is off.

    f. Once the image matches that of the baseline display, scroll down to Hide Menu, and then press ENTER. This adjusted unit is now a baseline display.

13. Repeat steps 11 and 12 for the remaining displays. Use adjacent baseline units for adjusting variable units.
14. For each display, open the Color Balance menu by pressing ENTER on the remote.
15. Scroll down to Test Pattern and press ENTER to change the setting to Gray.
16. Find the display with the least amount of gray. This will serve as the baseline display for adjusting all of the displays in the wall. Do not change any settings on this display.
17. Choose a display next to, above, or below the baseline display. This will serve as the variable display.
18. Repeat steps 12 and 13 applying them to Gray Balance-All, and associated Red, Green, and Blue settings.
19. After adjusting all units in the wall, turn off the test pattern for each display by doing the following:
    a. Press ENTER on the remote.
    b. Scroll down to Test Pattern.
    c. Press ENTER to change the setting to Off.
20. Press MENU on the remote to exit the menu.

SPREADING ONE PICTURE OVER A WALL

To spread one picture over a wall, an external controller must be used. Contact Pelco for information on compatible products.

SCALING AND CROPPING

The following procedure is required for a stand-alone unit and all units in a wall system.

In some cases, the aspect ratio of an image does not match that of a wall. The aspect ratio of an image is its width divided by its height. Example: 1024 ÷ 768 = an aspect ratio of 1.33.

The native aspect ratio of the PMCD750 is 1.77 (16 x 9), the same as HDTV. When the aspect ratio of the source image and the PMCD750 wall differ, it may be necessary to make an adjustment. The following options are available:

Fill All: This will stretch the picture until it touches all edges of the display. This setting can produce some image distortion.

Crop: This will expand the picture until the second edges (refer to *Letterbox/Pillarbox*) touch the border and let the other edges of the picture fall outside the wall and get cropped. Justification adjustments can be employed to better center the image.

Letterbox/Pillarbox: This will expand the picture until the first edges (top-bottom or left-right) touch the border of the wall, then fill in the other sides with a solid color.

Widescreen (16 x 9): This will force the image into an aspect ratio of 16 x 9 (1.77), the same as that of the PMCD750 display. This is recommended for sources that have a native 16 x 9 aspect ratio. Similar to Fill All, this can cause image distortion, depending on the source image's native aspect ratio.

Normal (4 x 3): This will force a 4 x 3 (1.33) aspect ratio, the ratio of standard television. This is recommended for sources that have a native 4 x 3 aspect ratio. Similar to Fill All, this can cause image distortion, depending on the source image's native aspect ratio.

One to One: This will display the image with no change to its original aspect ratio.

To set the aspect ratio, refer to Figure 17 and do the following:

1. Press the MENU button on the remote.
2. Scroll down to Aspect Ratio & Wall, and then press + on the remote control.
3. Scroll to Scale Mode, and then press + on the remote control.
4. Scroll down to the desired aspect ratio setting.
   a. Press + on the remote to see the preview effect with the menu still open.
   b. Press ENTER.
5. If Letterbox, Widescreen, or One to One was selected, do the following:
   a. Scroll down to Border Color.
   b. Repeatedly press ENTER to choose the desired color. This color will be displayed in the blank areas around the image.
6. Press the MENU button on the remote to close the menu.

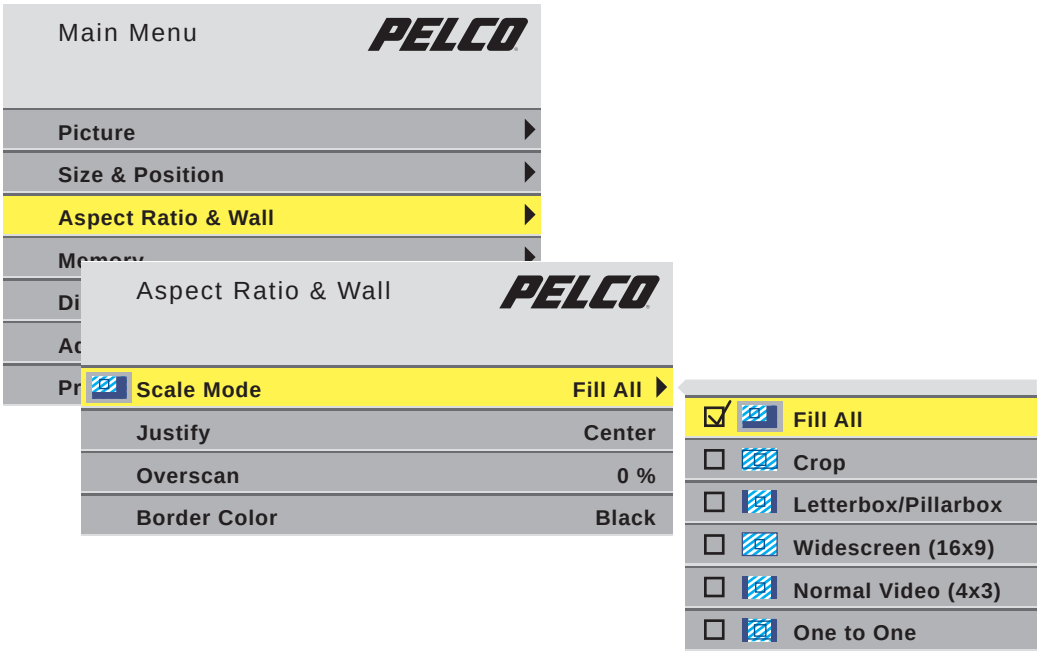


Figure 17. Scaling and Cropping

IMAGE POSITIONING

After the aspect ratio has been set, the image position on the screen can be adjusted.

The following procedure is required for a stand-alone unit and all units in a wall system.

To adjust the position of the image, refer to Figure 18 and do the following:

1. Press the MENU button on the remote.
2. Scroll down to Aspect Ratio & Wall, and then press +.
3. Scroll to Justify, and then press + on the remote control.
4. Select the appropriate setting. Press + to toggle through the following choices:
   - Select Center, which places the image in the exact center of the wall.
   - Select Bottom Right if the image is too wide for the wall and is cropped on the sides.
   - Select Top Left if the image is too tall for the wall and is cropped on the top and bottom.
5. Press the MENU button on the remote to close the menu.

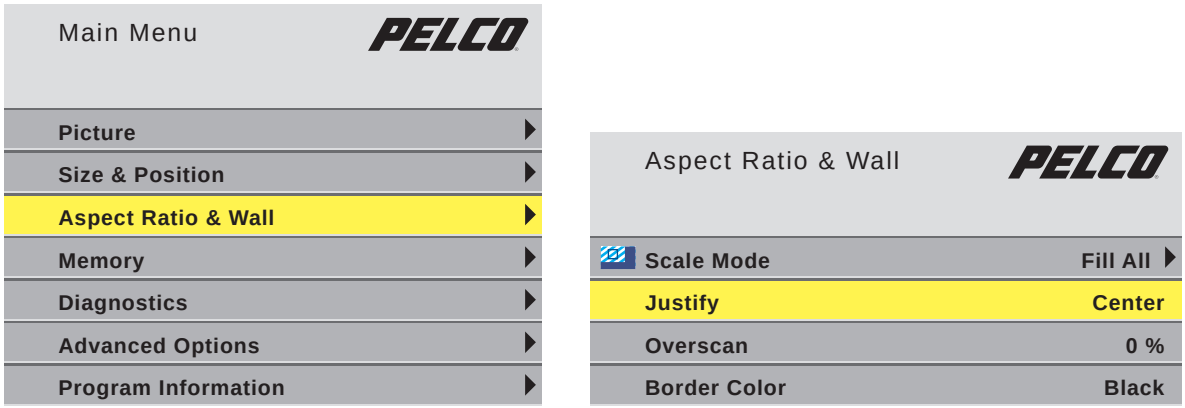


Figure 18. Justifying

OVERSCAN

The overscan feature allows the image to be expanded up to a maximum of 20%.

The following procedure is required for a stand-alone unit and all units in a wall system.

To change the overscan setting, refer to Figure 19 and do the following:

1. Press the MENU button on the remote.
2. Scroll down to Aspect Ratio & Wall, and then press +.
3. Scroll to Overscan and then do the following:
   a. Press the + button on the remote to increase the image size in 1% increments.
   b. Press the – button on the remote to decrease the image in 1% increments. This function will only work if the value is greater than 0%.
4. Press MENU on the remote to close the menu.

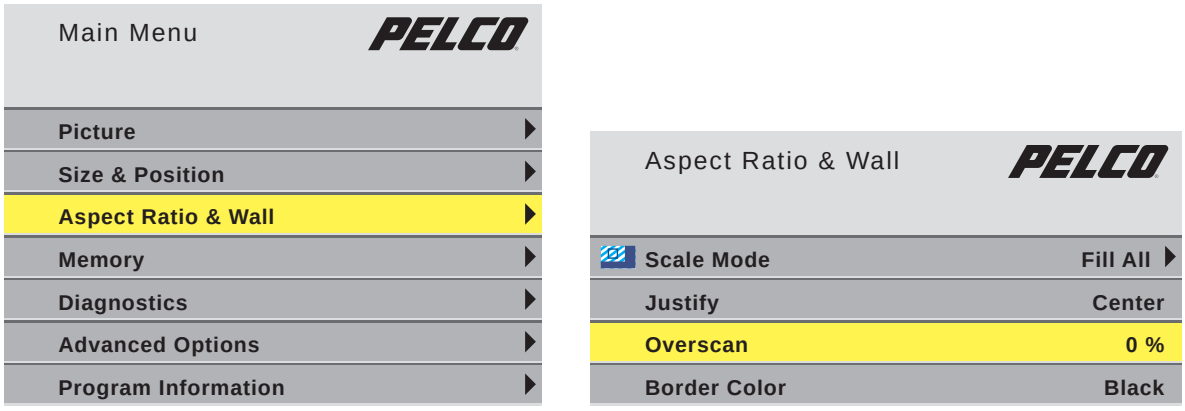


Figure 19. Overscanning

PREFERRED SOURCE DETECTION

When the PMCD750 attempts to detect an analog mode, it uses the horizontal frequency, the vertical frequency, and the number of horizontal lines per vertical interval. Unfortunately, some signals can have the same measurement on these three parameters, most notably resolutions of 1024 x 768, 1280 x 768 and 1366 x 768. When the display detects an ambiguous input, the Preferred Source Detection menu tells the display which aspect ratio to use; the default is 16 x 9. If this is not the desired aspect ratio, the setting can be changed. For example, if the display is used with a laptop computer that outputs 1024 x 768, the setting would be changed to 4 x 3. In most cases this setting will not need to be adjusted. Preferred Source Detection menu choices are 16 x 9, 5 x 4, 4 x 3, or 15 x 9.

The following procedure is required for a stand-alone unit and all units in a wall system.

To adjust preferred source detection, refer to Figure 20 and do the following:

1. Press MENU on the remote control.
2. Scroll down to Advanced Options, and then press + on the remote control.
3. Scroll down to Miscellaneous Options, and then press + on the remote.
4. Scroll down to Preferred Source Detection.
5. Press ENTER on the remote. Each press will change the setting.
6. Press MENU to exit the menu.

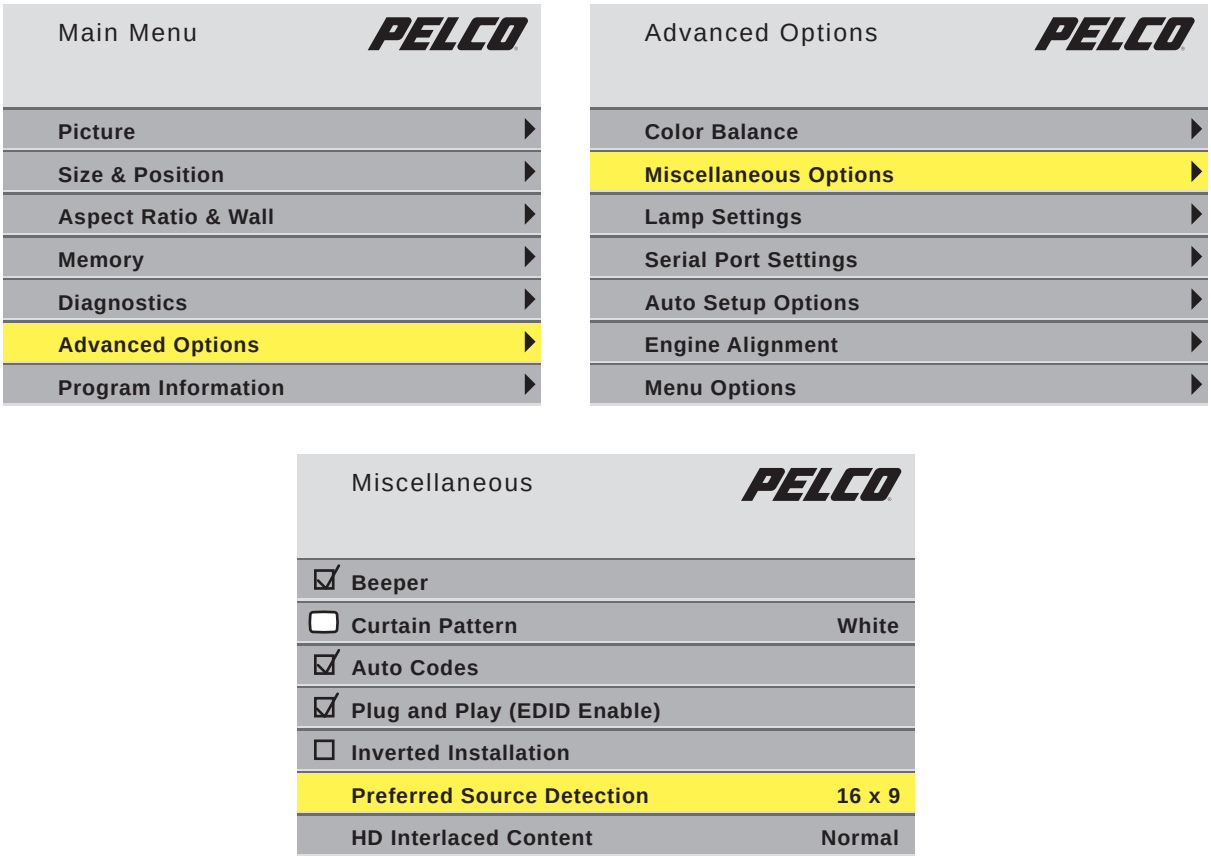


Figure 20. Preferred Source Detection

HD INTERLACED CONTENT

When displaying 1080i video sources, deinterlacing artifacts can sometimes be visible. HD interlaced content can minimize or eliminate these artifacts to produce a sharper image. There are two levels of this function.

Normal: For static (still) and normal motion images.

Rapid: For images with rapid movement, such as an auto race.

The following procedure is required for a stand-alone unit and all units in a wall system.

To adjust HD interlaced content, refer to Figure 21 and do the following:

1. Press MENU on the remote control.
2. Scroll down to Advanced Options, and then press + on the remote control.
3. Scroll down to Miscellaneous Options, and then press + on the remote.
4. Scroll down to HD Interlaced Content.
5. Press ENTER on the remote. Each press will change the setting.
6. Press MENU to exit the menu.

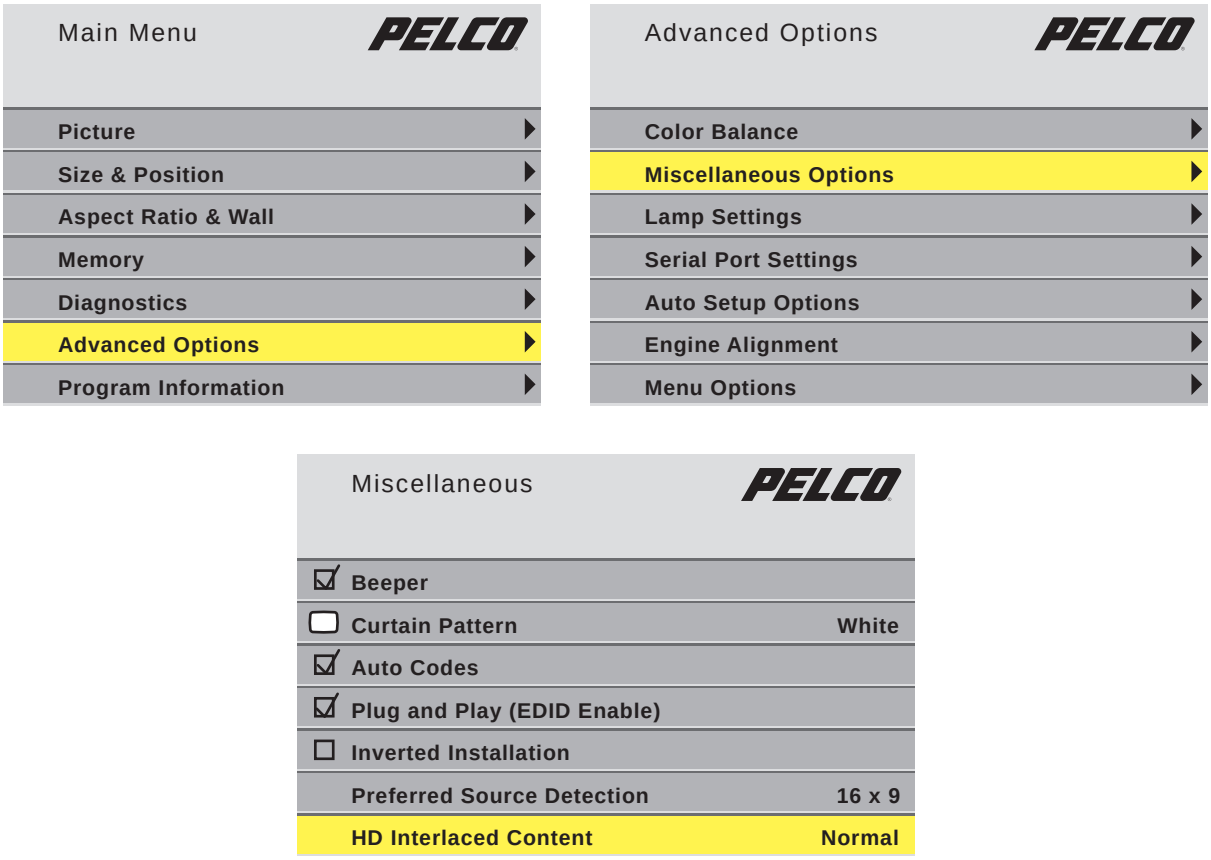


Figure 21. HD Interlaced Content

POSITION AND ZOOM

Position moves the picture on the screen. This is *not* the same as optical engine alignment. Zoom adjusts the edges of the image to make them fit with the other images in a wall.

NOTE: If the screen has a black edge on one or both sides and the image cannot be repositioned to cover it, the optical engine must be adjusted. Refer to the *Aligning the Optical Engine* section.

PICTURE POSITION ADJUSTMENT

The following procedure is required for a stand-alone unit and all units in a wall system.

If necessary, adjust the position of the image. Refer to Figure 22 and do the following:

1. Press the MENU on the remote control.
2. Scroll down to Size & Position, and then push +.
3. Select Picture Position, and then press +. The numeric values for the current horizontal and vertical position of the image are displayed.
4. Make necessary adjustments.
   a. To adjust horizontally, use the + and – buttons.
   b. To adjust vertically, use the ▲ and ▼ buttons.
5. Press the MENU button on the remote to close the menu.

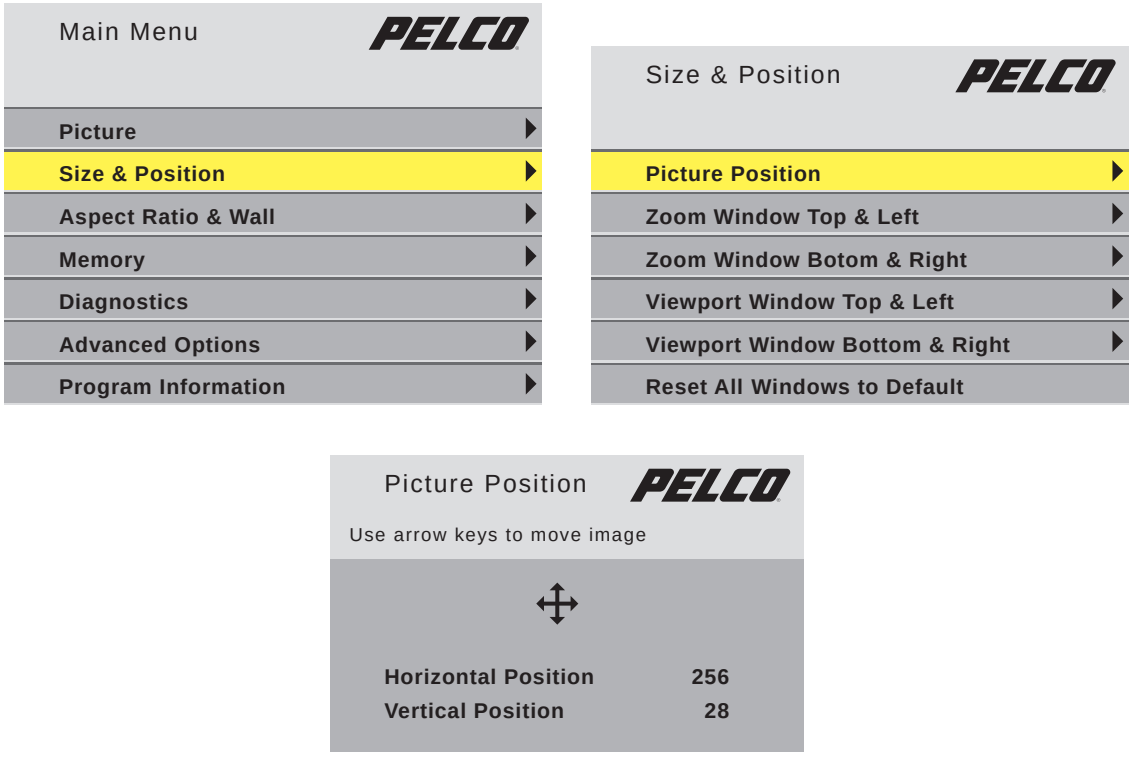


Figure 22. Picture Positioning

ZOOM ADJUSTMENT

The following procedure is required for a stand-alone unit and all units in a wall system.

Zoom is primarily used to adjust the edges of a single image spread over several displays.

NOTE: If the screen has a black edge on one or both sides and the image cannot be zoomed to cover it, the optical engine must be adjusted. Refer to the *Aligning the Optical Engine* section.

Adjust the level of zoom for the image. Refer to Figure 23 and do the following:

1. If you are in the Size and Position submenu, go to step 2. From the Main Menu, scroll to Size and Position and then press the ENTER button on the remote.
2. Scroll to Zoom Window Top & Left.
3. Use the ▲, ▼, +, and – buttons on the remote to zoom the image up and left relative to the top and left edges.
4. Press the PREV button on the remote.
5. Scroll to Zoom Window Bottom & Right.
6. Use the ▲, ▼, +, and – buttons on the remote to zoom the image down and right relative to the bottom and right edges.
7. Press the MENU button on the remote to close menu.

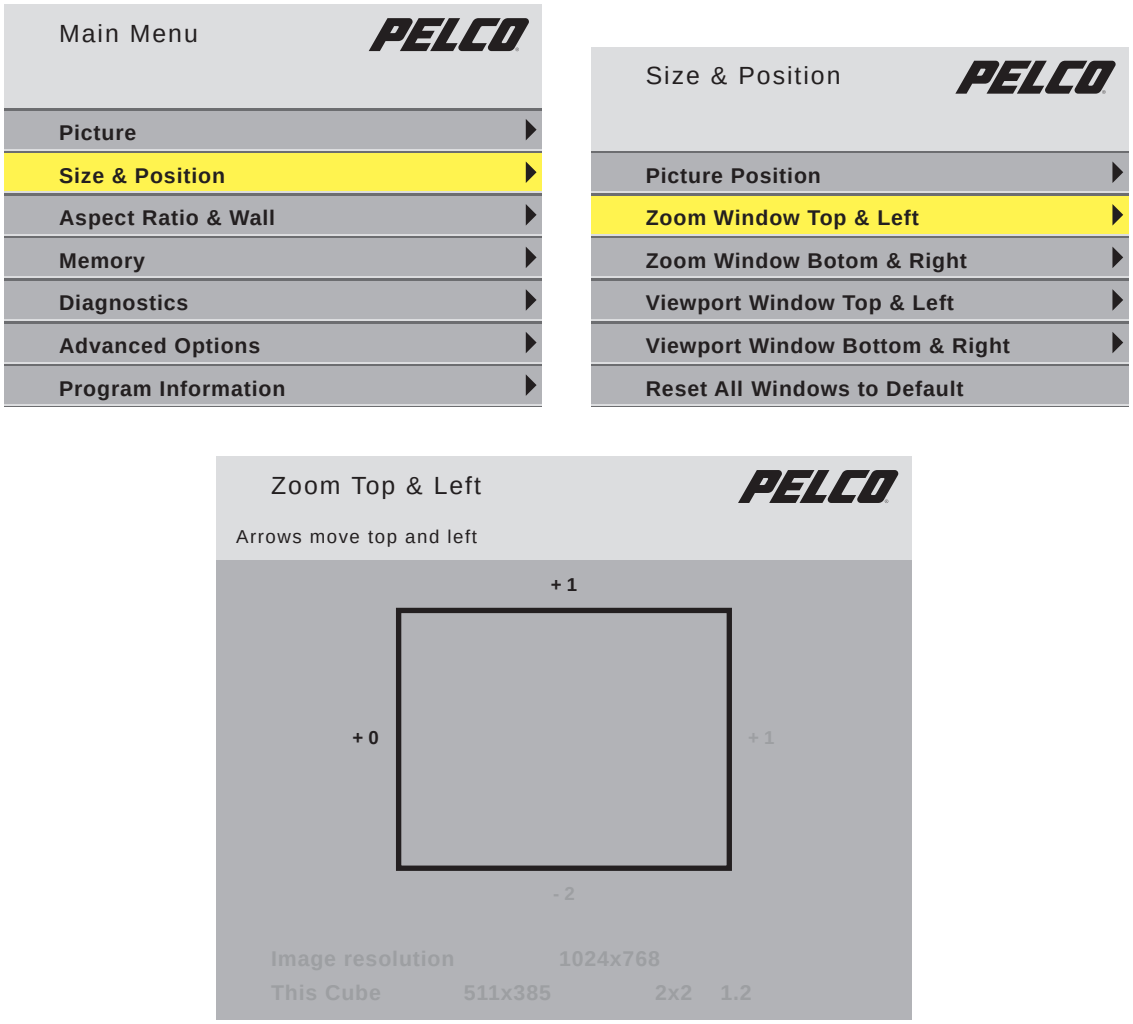


Figure 23. Zooming

SAVING AND RECALLING ADJUSTMENTS AND DELETING A MEMORY

The PMCD750 has 40 numbered memory slots that can be used to save and recall image adjustments and apply them to a specific source and input. Once assigned, the input will have these image adjustments applied each time the associated source is detected. Each input can have multiple sources and associated preferences.

An example of this application would be having a computer connected to the Analog 1 input. The Analog 1 input can have one of the 40 settings applied to it each time that specific source computer is detected at the Analog 1 input. If the input source changes, the same settings will still be applied, but if you wish to assign different settings for the new source, selecting a different memory slot will apply the new settings each time that source is detected at the Analog 1 input. If the previous source is detected, the previous settings will be applied. This flexibility can be applied to each of the video inputs.

SAVING ADJUSTMENTS

The following procedure is required for a stand-alone unit and all units in a wall system.

To save image adjustments, refer to Figure 24 and do the following:

1. Make all image adjustments. Refer to the *Alignment and Adjustment* section.
2. Press the MENU button on the remote.
3. Scroll down to Memory.
4. Press + on the remote.

Figure 24. Saving Adjustments

5. Scroll down to Save, press + on the remote, and then do the following:

   a. Use the ▲, ▼, ◀, and ▶ buttons on the remote to navigate to an unchecked box. Selecting a checked box will overwrite (replace) the preferences stored there.

   b. Press ENTER. The Save menu displays all data that will be stored in this slot.

6. If desired, the Name designation for the slot can be edited. There are 24 character spaces available. To save the data without editing the designation, go to step 7.

NOTE: The default name for a slot is an abbreviation of the type of connection used, resolution, wall configuration, and wall position (when applicable).

   To edit the Name line:

   a. Scroll to Name.

   b. Press ENTER.

   c. Use the + and – buttons to navigate along the line. Use the ▲ and ▼ buttons to change each character.

   d. Press PREV on the remote to enter each changed character.

7. Scroll to Save Now.

8. Press ENTER to save the settings.

RECALLING SLOT PREFERENCES

The following procedure is required for a stand-alone unit and all units in a wall system.

To recall stored preferences, refer to Figure 25 and do the following:

1. Press the MENU button on the remote.
2. Scroll down to Memory.
3. Press ENTER on the remote.
4. Scroll down to Recall.
5. Press ENTER.
6. Use the ▲, ▼, ◀, and ▶ buttons on the remote to navigate to the desired checked box. Unchecked (empty) boxes cannot be selected.
7. Press ENTER. The settings for the selected slot are displayed. If the settings in the slot are identical to those currently in use, "Current" will appear on the top line. To exit this menu without applying these settings, press PREV on the remote control. Otherwise, go to step 8.
8. Scroll to Recall Now.
9. Press ENTER to apply the selected slot settings.

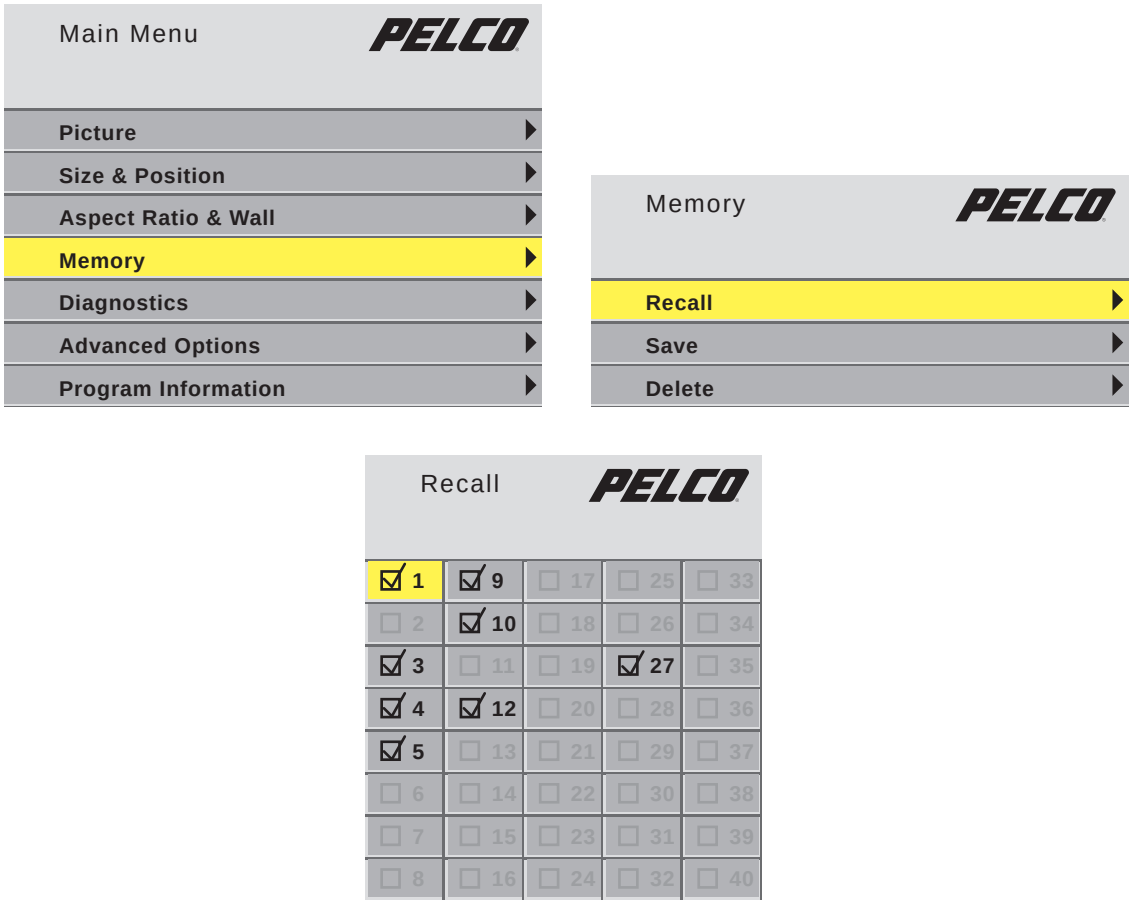


Figure 25. Recalling Adjustments

DELETING STORED SLOT SETTINGS

NOTE: It is not necessary to delete a memory slot before saving something new.

The following procedure is required for a stand-alone unit and all units in a wall system.

To delete stored slot settings do the following:

1. Press the MENU button on the remote.
2. Scroll down to Memory.
3. Press ENTER on the remote.
4. Scroll down to Delete.
5. Press ENTER.
6. Use the ▲, ▼, ◀, and ▶ buttons on the remote to navigate to the desired checked box. Unchecked (empty) boxes cannot be selected.
7. Press ENTER. The Delete Now line is now selected. To exit this menu without deleting these settings, press PREV on the remote control. Otherwise, go to step 8.
8. Press ENTER to delete the selected slot settings.

Operation

START-UP SEQUENCE

When AC power is applied, there are a few seconds of apparent inactivity in which the electronics module begins start up and initialization. Next, if the optical engine is warm, the intake and lamp fans start. Because the service life of the lamp can be significantly shortened if turned on when hot, the lamp cannot be turned on during this time. The lamp fan runs for approximately one minute to ensure the lamp is cool. If the temperature sensor on the optical engine determines that the lamp is sufficiently cool at power up, this cool-down period is skipped.

LAMP SETTINGS

For optimum convenience and service life, the lamp can be set to turn on automatically at the end of the cool down period (Auto lamp On), and to turn off within a specified time if there is no video input (Lamp Saver Timeout).

To check or change the lamp settings, refer to Figure 26 and do the following:

1. Push MENU on the remote.
2. Scroll down to Advanced Options, and then press +.
3. Scroll down to Lamp Settings, and then press +.

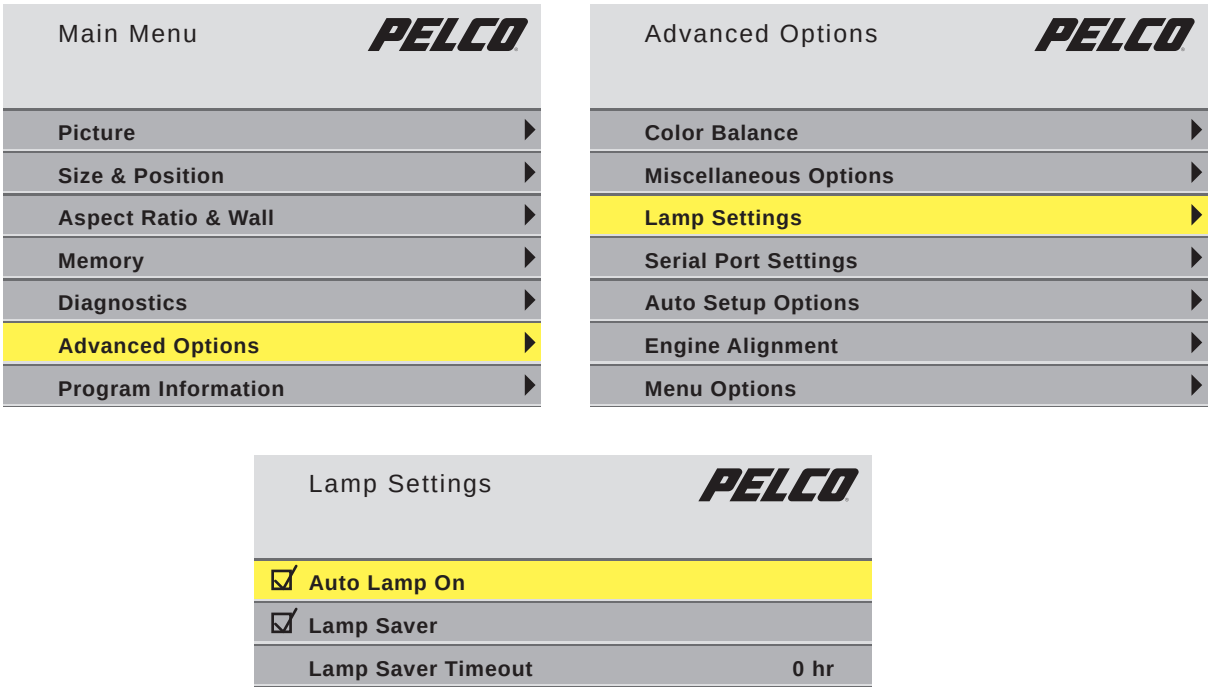


Figure 26. Lamp Settings

4. Scroll down to Auto Lamp On.
5. Press ENTER on the remote to select (check mark) or deselect (no check mark) the check box.
6. Scroll down to Lamp Saver.
7. Press ENTER on the remote to select (check mark) or deselect (no check mark) the check box.
8. If Lamp Saver is selected, do the following:

NOTE: The Lamp Saver Timeout value cannot be set lower than 5 minutes.

   a. Scroll down to Lamp Saver Timeout (hr).
   b. Press the + button on the remote to increase the value.
   c. Press the – button to decrease the value.

9. Press the MENU button on the remote to close menu.

SHUT-DOWN SEQUENCE

⚠ **WARNING:** Turning off the PMCD750 display by turning off the power switch does not allow the lamp to cool down properly. Turning the display off by this method may significantly shorten the service life of the lamp.

The lamp fan runs continuously while the lamp is on. When the lamp is turned off, the intake fan shuts off 15 seconds later, while the lamp fan continues to run for an additional 5 minutes to cool the lamp. If the display must be disconnected from power, do the following:

1. Press OFF on the remote control.
2. Wait for the lamp fan to stop running.
3. Press the AC power switch on the rear of the display to turn off the power.
4. Remove the power cord from the AC in receptacle.

USING THE REMOTE CONTROL

The remote control projects a series of IR (infrared) pulses to the PMCD750 display for control. Aim the remote control at a single display and press MENU. The main menu should be visible if the lamp is on. Refer to Figure 27 for remote control buttons and their associated commands/ actions.

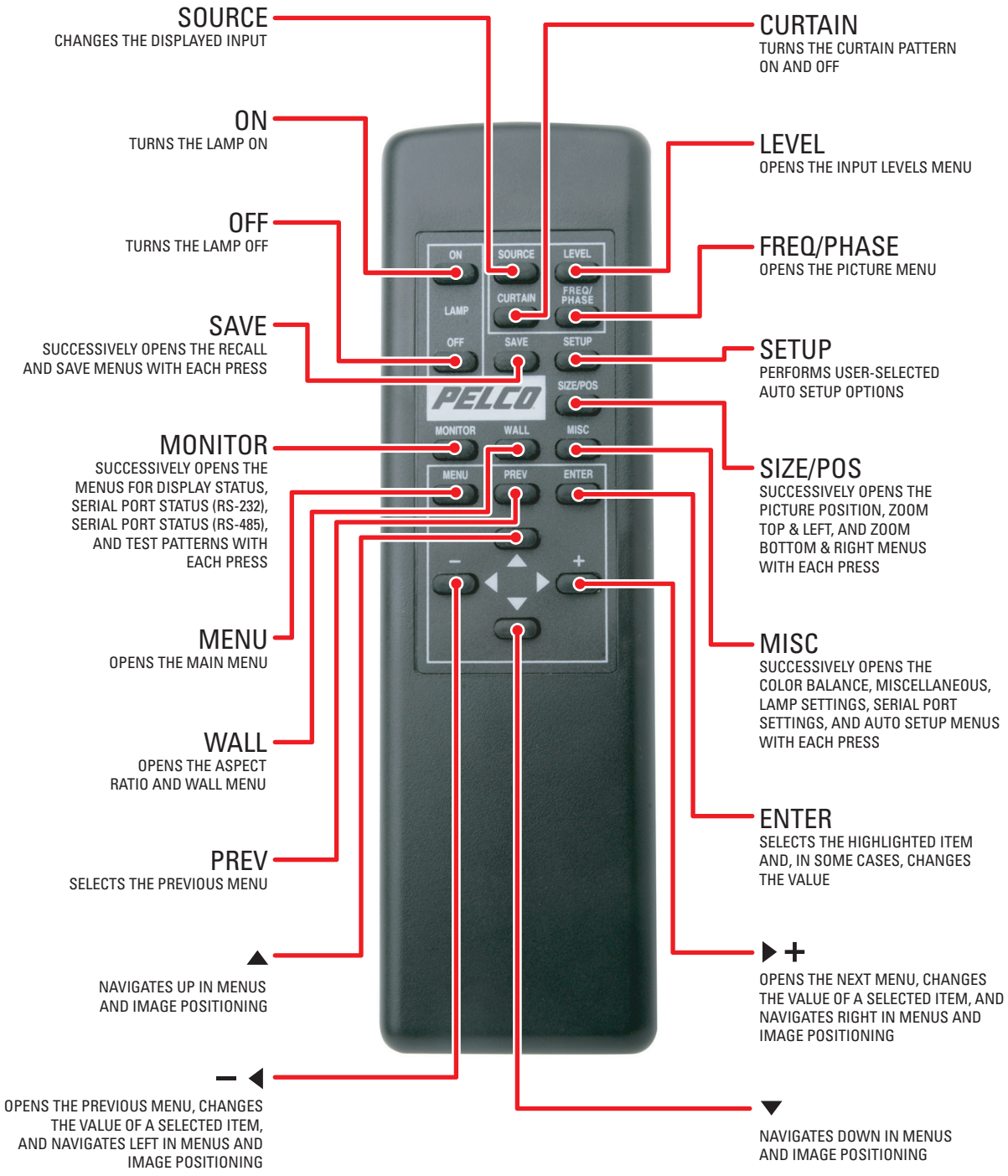


Figure 27. Remote Control Layout

If the remote is not functioning properly, check for the following causes:

- The batteries in the remote are dead or installed wrong.
- The remote was not aimed at the screen.
- The IR receiver in the display is blocked.
- The IR remote action was disabled by an RS-232 command.
- The remote control has a large spread of IR radiation. It is difficult from a distance to control a specific display in a wall. Step closer to the target display and try the command again.

BEEPER

If Beeper has a check mark in the box beside it in the Miscellaneous menu, the display will make a beep each time a button on the remote is pressed and the signal is received.

NOTE: If the PMCD750 cannot perform the requested action, it will beep three times. A triple beep will happen regardless of the Beeper setting.

To change the status of the Beeper setting, refer to Figure 28 and do the following:

1. From the Main Menu, scroll down to Advanced Options.
2. Press + on the remote.
3. Scroll down to Miscellaneous Options.
4. Press + on the remote.
5. Scroll to Beeper.
6. Press ENTER to select (turn on) or unselect (turn off) the check box.
7. Press MENU to exit the menu.

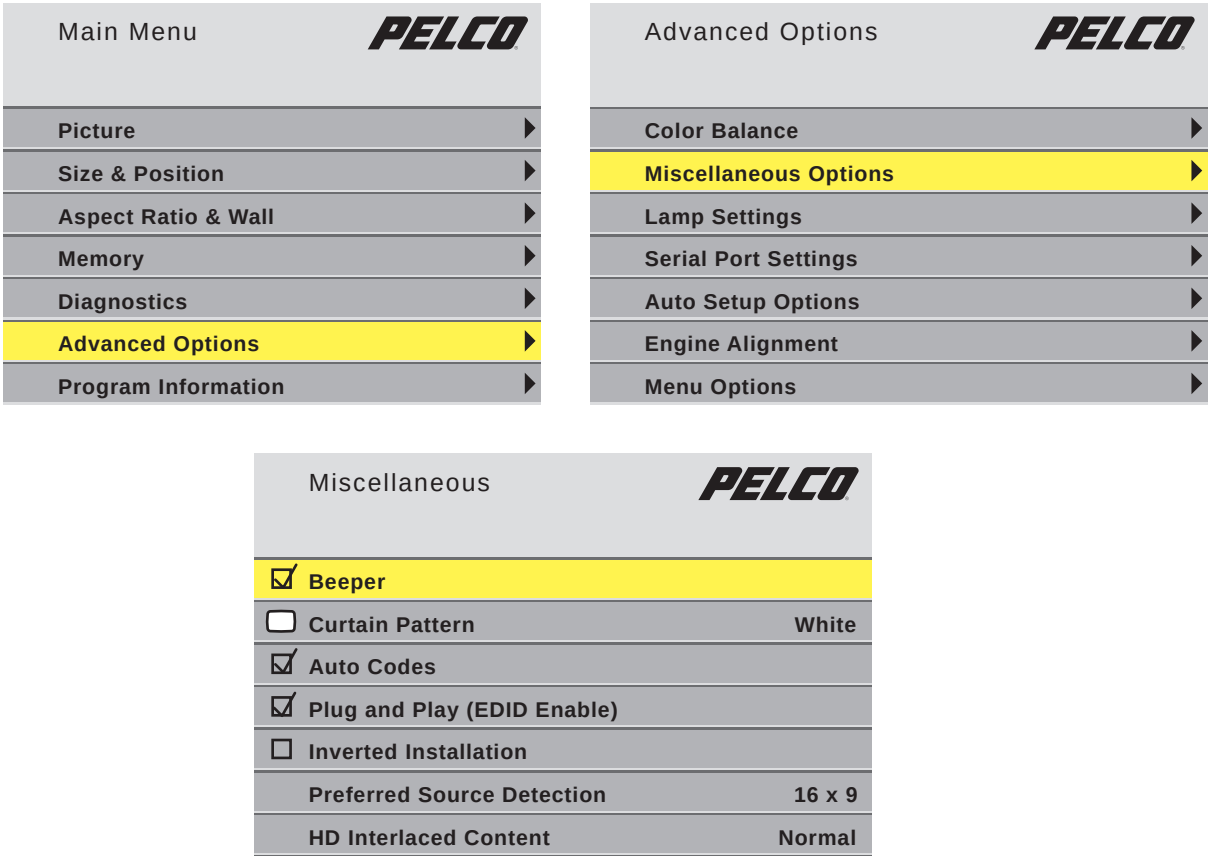


Figure 28. Beeper Setting

SELECTING A SOURCE

The source is the image coming into the PMCD750 display.

NOTE: If a "Source Absent" message appears on the screen, this indicates that there is no video coming into that input or that the signal is not viewable.

To select a source, refer to Figure 29 and do the following:

1. Press MENU on the remote control.
2. Scroll down to Picture and then press + on the remote.
3. Use the ▲ and ▼ buttons to navigate to the desired source.
4. Press ENTER on the remote. The video (if present) will now be displayed.
5. If the selected input is not the desired one, repeat steps 3 and 4.
6. Press MENU on the remote control to exit the menu.

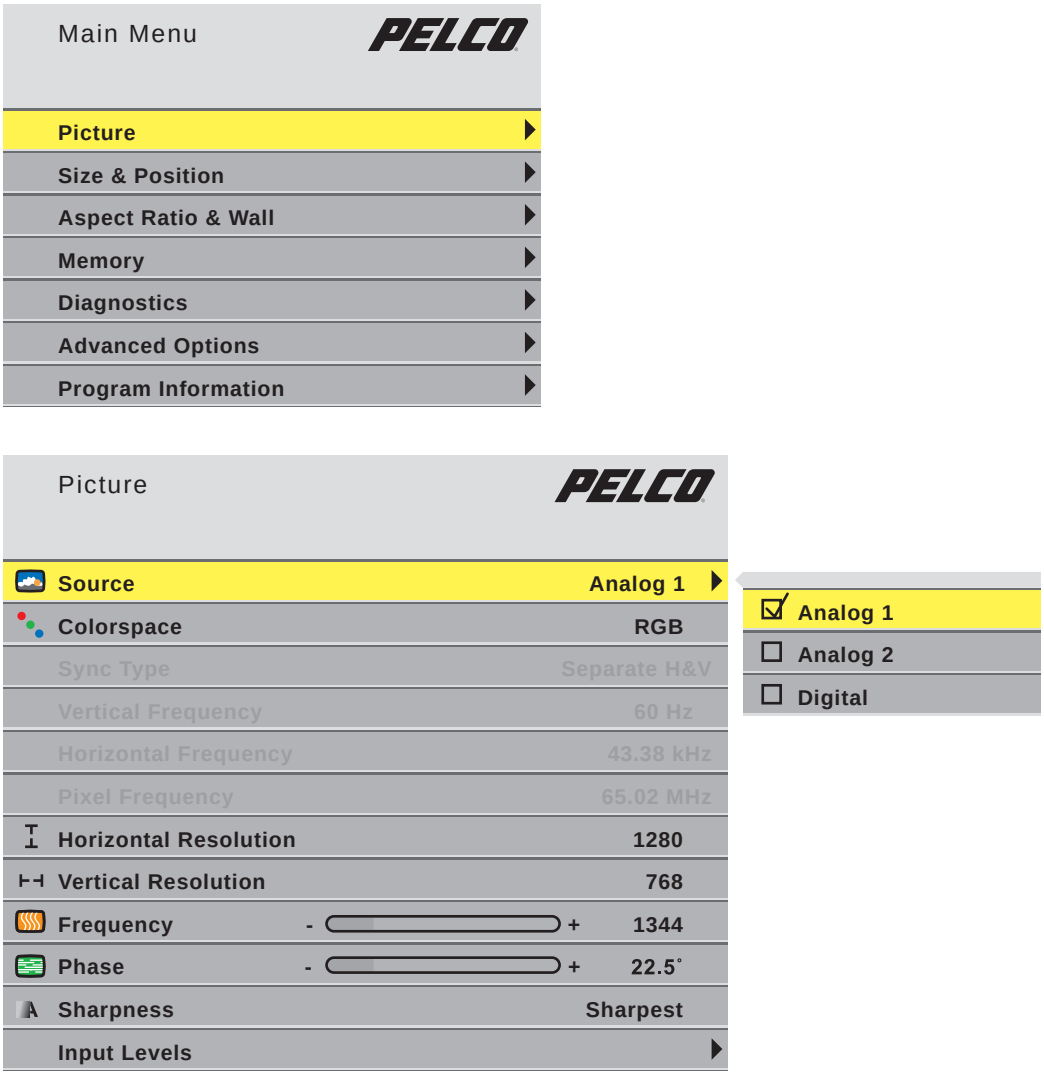


Figure 29. Selecting a Source

CONTROLLING WITH RS-232/RS-485 INTERFACE

Control from a computer and external control device using serial commands through an RS-232/RS-485 interface can provide increased convenience and flexibilty when setting up and running a wall of PMCD750 displays. Each display within the wall is looped to the next in series. The loop-through limit for RS-232/RS-485 signals is thirty units.

DISPLAY IDS AND ADDRESSING

The Group ID and Unit ID combine to form the display's ID. Each of the two parts has a range for characters from 0 to 9 and from A to Z, which are not case sensitive.

When a command is sent, it will have a two-digit address. The Group ID represents the first digit, and the Unit ID represents the second digit. There are four forms this address can have:

- To address all displays in the loop, use ** for the address.
- To address a single display, use the specific ID value (Group and Unit) of that display.
- To address all displays with a specific Group ID, use the Group ID value followed by *.
- To address all displays with a specific Unit ID, use * followed by the Unit ID value.

To set the display ID, refer to Figure 30 and do the following:

1. Press MENU on the remote.
2. Scroll down to Advanced Options, and then press +.
3. Scroll down to Serial Port Settings, and then press +.
4. Scroll to Group ID and use the – and + buttons to change the value.
5. Scroll to Unit ID and use the – and + buttons to change the value.
6. Press MENU to close the menu.

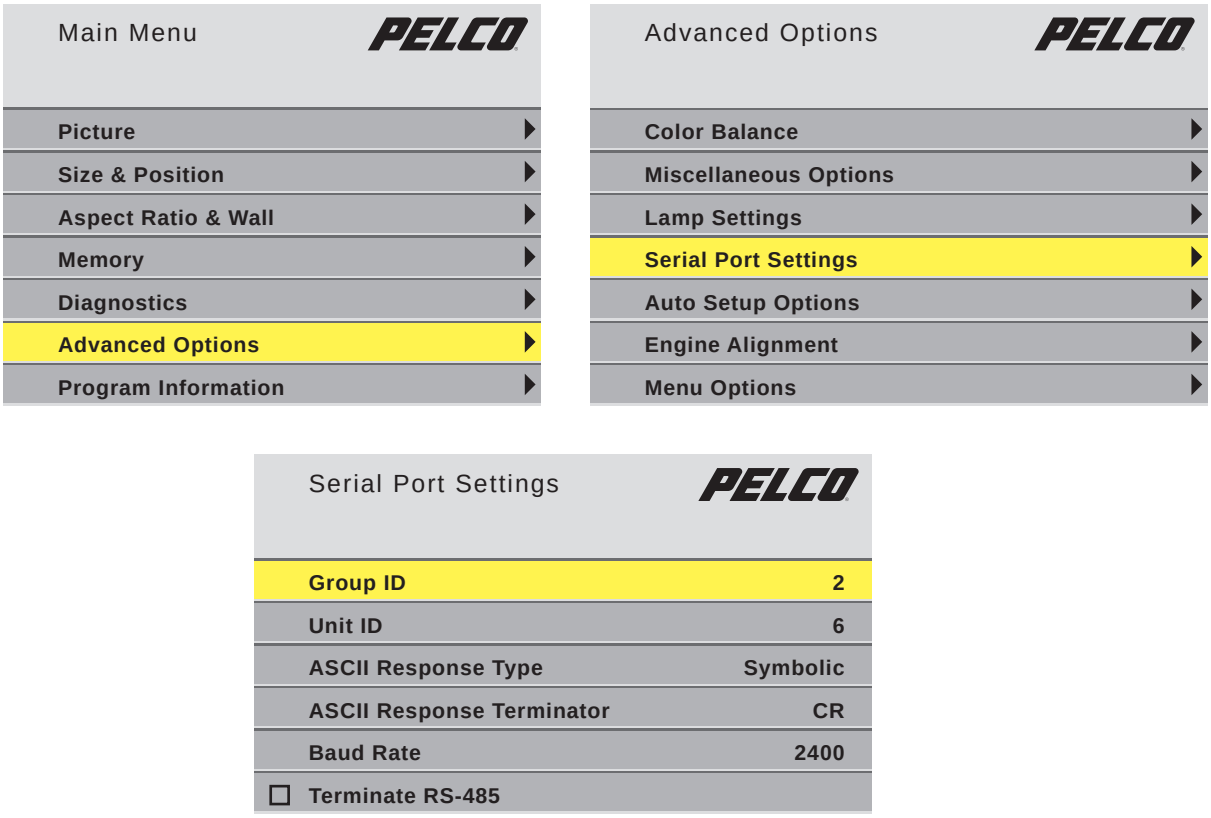


Figure 30. Serial Port ID Settings

BAUD RATE

Each display's baud rate must be set to the computer's and controller's baud rate. The baud rate is not automatically established, as it is in modems.

To set the baud rate, refer to Figure 31 and do the following:

1. Press MENU on the remote.
2. Scroll down to Advanced Options, and then press +.
3. Scroll down to Serial Port Settings, and then press +.
4. Scroll down to Baud Rate.
5. Use the – and + buttons to change the value.
6. Press MENU to exit the menu.

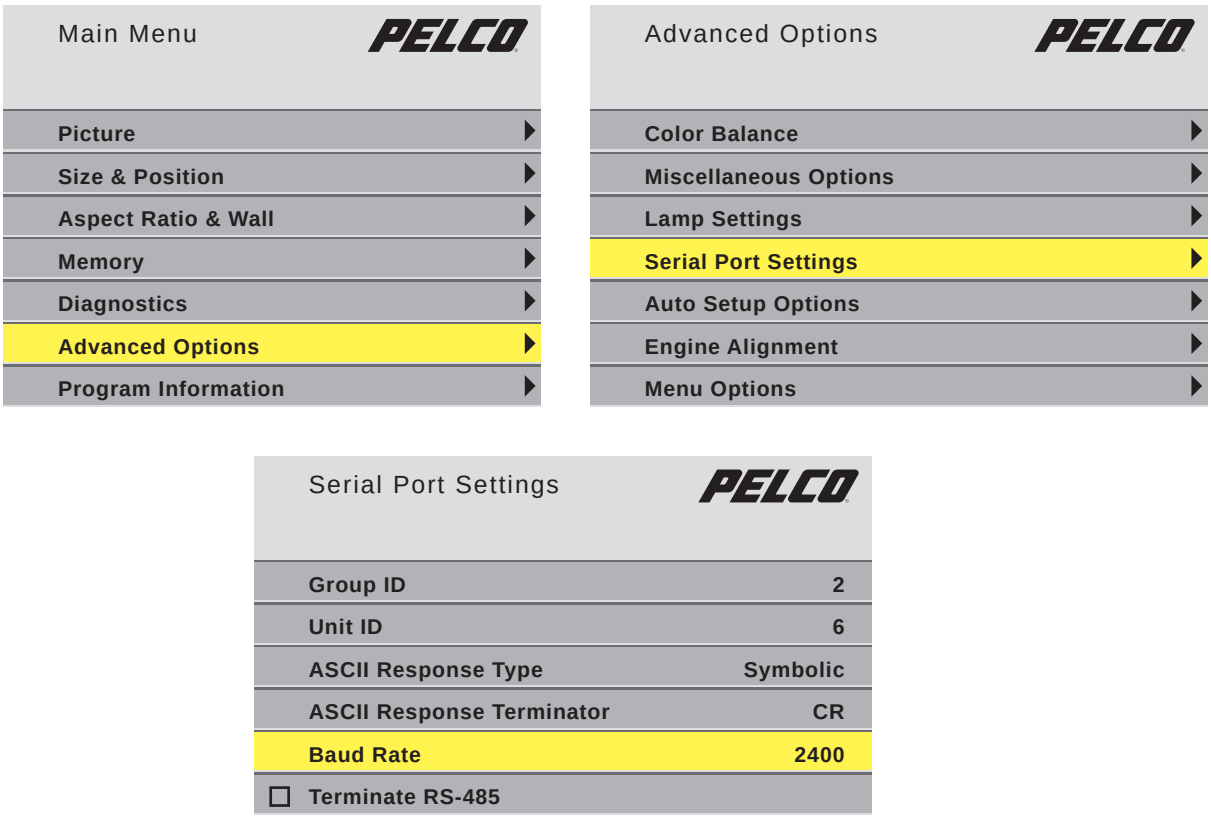


Figure 31. Baud Rate

TERMINATION

In some cases, it may be necessary to terminate the last display in a series. In most instances, this is not necessary. Terminating the loop unnecessarily can cause communication problems. If communication of commands appears to be working properly with all displays in the wall, do not terminate the series.

To terminate the last display in a serial loop, refer to Figure 32 and do the following:

1. Press MENU on the remote.
2. Scroll down to Advanced Options, and then press +.
3. Scroll down to Serial Port Settings, and then press +.
4. Scroll down to Terminate RS-485.
5. Press ENTER on the remote to select the check box to activate termination.
6. Press MENU to close the menu.

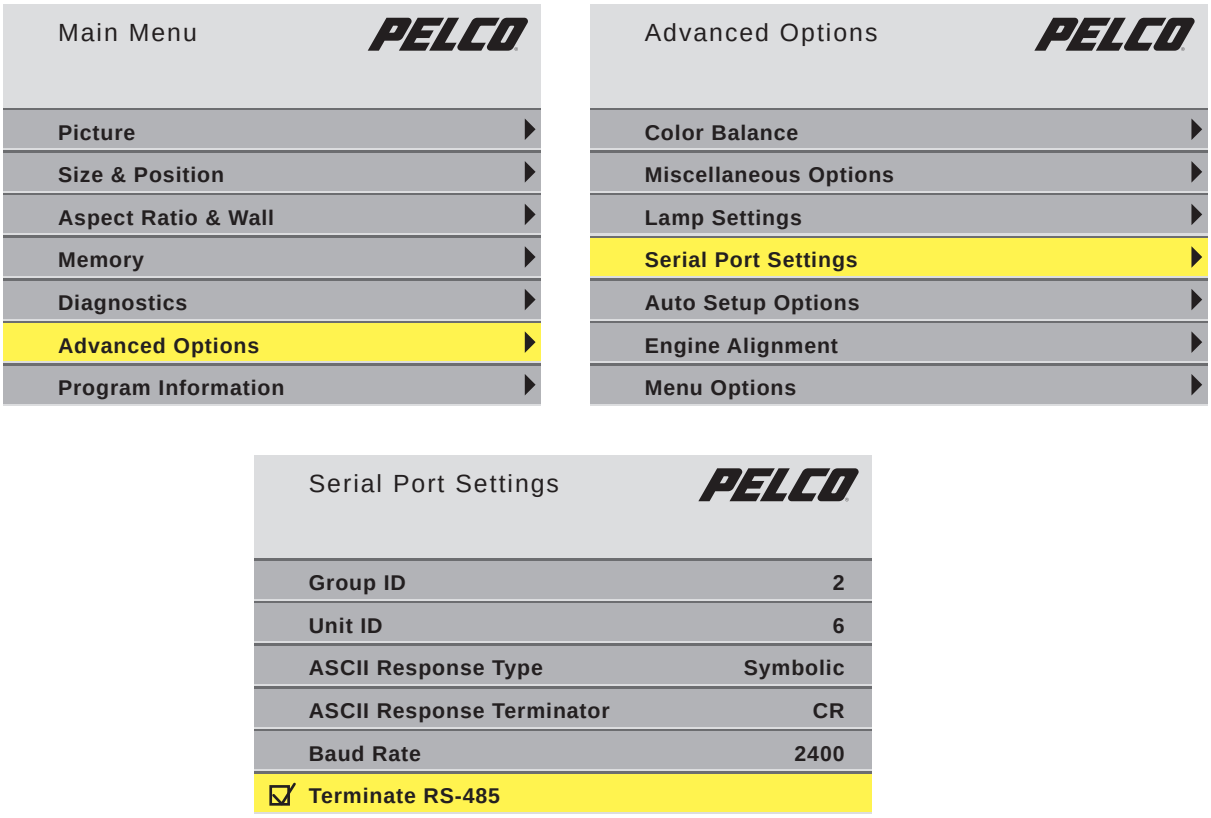


Figure 32. RS-485 Termination

ASSET TAG AND UNIT STATUS

The Asset Tag feature displays specific information relative to serial number and current status of the PMCD750 display.

To display the asset tag information, refer to Figure 33 and do the following:

1. Press MENU on the remote.
2. Scroll down to Diagnostics.
3. Press + on the remote.
4. Scroll to Unit Status.
5. Press +. The following information is displayed:

1280 x 720
The resoulution of the display.

Rev X.X
The revision number of the firmware currently operating in this unit.

Optical Engine SN
The serial number read from the optical engine in this unit.

Asset Tag
An editable text line. A short message can be inserted here using RS-232 commands. It is recommended to enter the serial number of this display here, unless your facility has a special method of identifying property. Refer to the *Connecting RS-232 and RS-485 Control* section and the manual for the external controller used for more information.

PS Fan and Eng Fans
If these fans are not on, the lamp will not be on, and the menu would not be visible.

Lamp
If the lamp is off, the menu would not be visible.

Interlock
If the interlock is Open, the lamp will not light (unless the interlocks have been bypassed to service the display).

Mode ID
The number of the mode (type of signal) currently set.

HPer
The horizontal period in nanoseconds (ns) of this signal (picture).

VLines
The number of vertical lines in the picture. This number will be larger than the vertical resolution, because it includes vertical blanking lines that are not visible.

Last Fault
The last event that forced the lamp off, followed by the number of hours and minutes elapsed since the fault occurred, measured in system hours, not clock time.

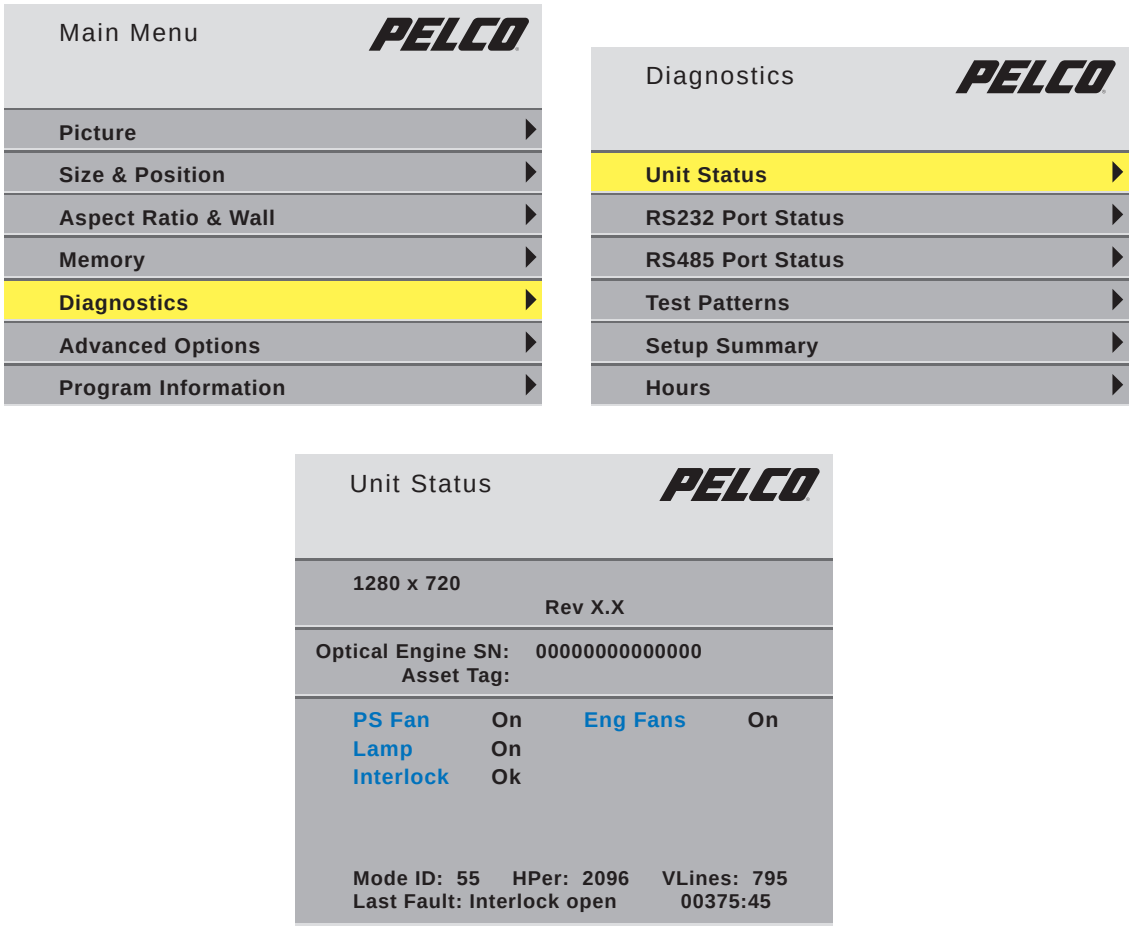


Figure 33. Unit Status

Maintenance

REMOVING OR OPENING A SCREEN

To remove a screen from a PMCD750 stand-alone display, simply grasp the sides of the screen and pull forward sharply. The spring latches will pop loose, and the screen can be lifted off.

Removing a screen from a PMCD750 in a wall is more exacting, because the screens are so close together. When it becomes necessary to remove a screen in the middle of a wall, the work should start from the top and outside of the wall, progressing inward. This order of operations helps prevent screen damage.

REMOVING A SCREEN IN AN OUTSIDE COLUMN

⚠ **WARNINGS:**

- Do not start at the outside (open) edge of the display's face. This will cause the outside screen to impact against the adjacent screen.
- Extending the screen out further than 1/2 inch (1.3 cm) may cause damage to the adjacent screen.

To remove a screen, refer to Figure 34 and do the following:

1. Place the included suction cups near the upper and lower inside corners (left or right, depending on the location within the wall) of the screen, and then do the following:

⚠ **WARNING:** Extending the screen out further than 1/2 inch (1.3 cm) may cause damage to the adjacent screen.

   a. Pull the lower suction cup slightly up and outward sharply, extending a maximum distance of 1/2 inch (1.3 cm). The screen latch will make an audible click and release. Pulling slightly up keeps this screen from rubbing the screen below.

   b. Pull the upper suction cup slightly up and outward sharply, extending a maximum distance of 1/2 inch (1.3 cm). The screen latch will make an audible click and release. Pulling slightly up keeps this screen from rubbing the screen below.

2. Remove the suction cups and place them on the upper and lower outside corners of the screen. Repeat steps a and b from step 1. The screen latches will make an audible click and release. Exercise caution as these are the last latches securing the screen. Pulling slightly up keeps this screen from rubbing the screen below.

3. With one person on each side, carefully lift up the screen and remove it from the screen rails.

Figure 34. Suction Cup Placement Order

REMOVING A CENTER SCREEN

When removing a screen located in the center column of a wall, first it is necessary to remove all screens located on one side and above the target screen in order to avoid damage. Refer to Figure 35 for an example of the order in which to remove screens.

Refer to *Removing a Screen in an Outside Column* for instructions on how to remove screens.

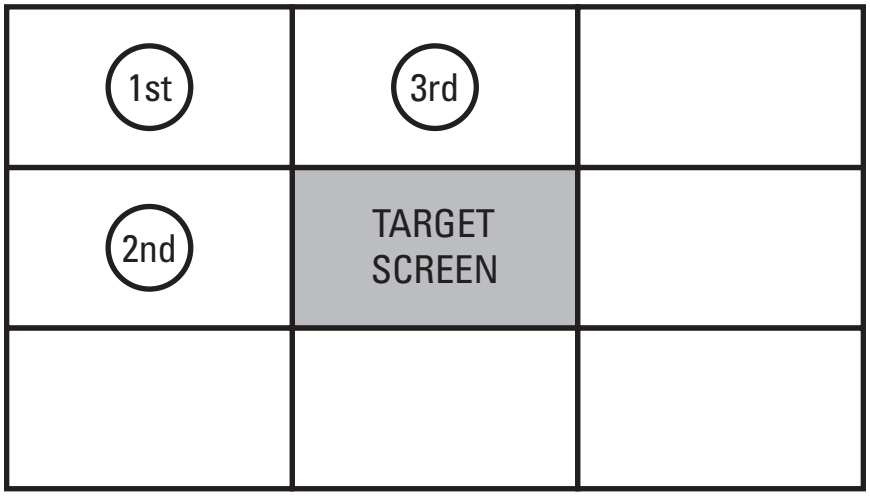


Figure 35. Screen Removal Order

OPENING A SCREEN TEMPORARILY FOR WORK

The PMCD750 screen can be temporarily propped open for work from the front. Refer to Figure 36 and do the following:

1. To open a screen from a stand-alone display, grasp the sides of the screen and pull forward sharply until the spring latches pop loose. Proceed to step 3.

⚠ **WARNING:** Before opening a screen located in the center column of a wall, all screens on one side and above the target screen must be removed to avoid damage.

2. To remove a screen from a PMCD750 display within a wall, first remove the screens on one side and above the screen you want to open. Refer to the *Removing a Screen in an Outside Column* and *Removing a Center Screen* sections.
3. Pull the screen all the way out.
4. Raise the hooks located on the screen rails.
5. Pivot the screen forward and carefully align the screen rail hooks into the slots on the rear of the screen.
6. After completing the work, pivot the screen up and lower the hook along the screen rail before closing the screen.

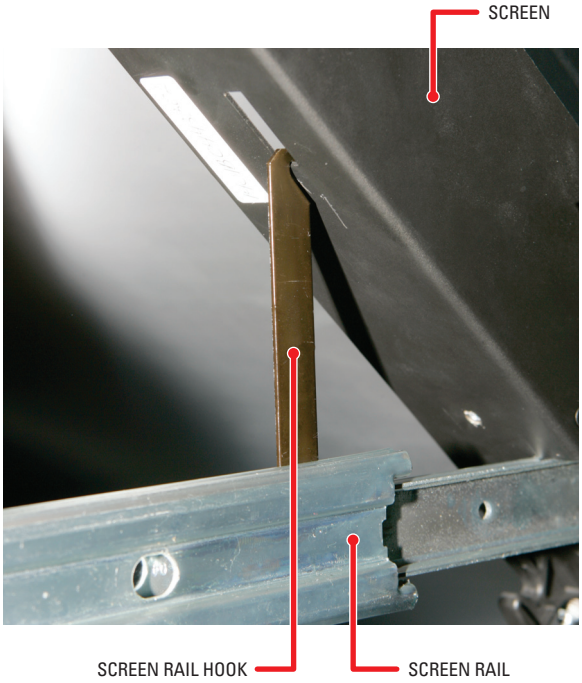


Figure 36. Screen Rail Hook

CHANGING THE LAMP

The lamp can be removed from the front or the rear.

REMOVING THE LAMP FROM THE FRONT

To change the lamp from the front, refer to Figures 37-40 and do the following:

⚠ **DANGER:** Turn off and disconnect power from the unit before replacing the lamp. Voltage present at the lamp can cause serious injury or death.

1. Turn off the AC power switch, and then remove the cord. Refer to the *Shut-down Sequence* section.
2. Open the screen. Refer to the *Opening a Screen Temporarily for Work* section.
3. Loosen the screw securing the light shield.
4. Lift the light shield up, and then latch it open.
5. Loosen the lamp screw on the right rear of the lamp.
6. Move the lamp to the rear about 3/8 of an inch (1 cm) and then left.
7. Lift the lamp out, still connected to the electronics module.
8. Disconnect the lamp cable.

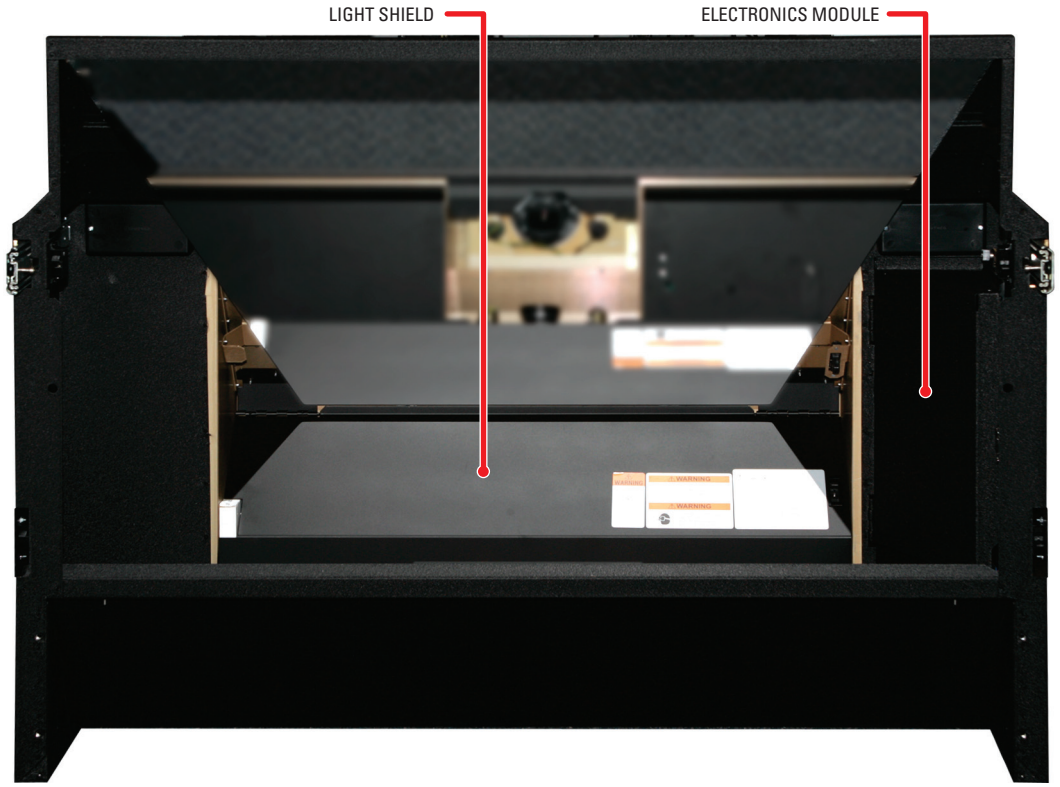


Figure 37. Light Shield Location

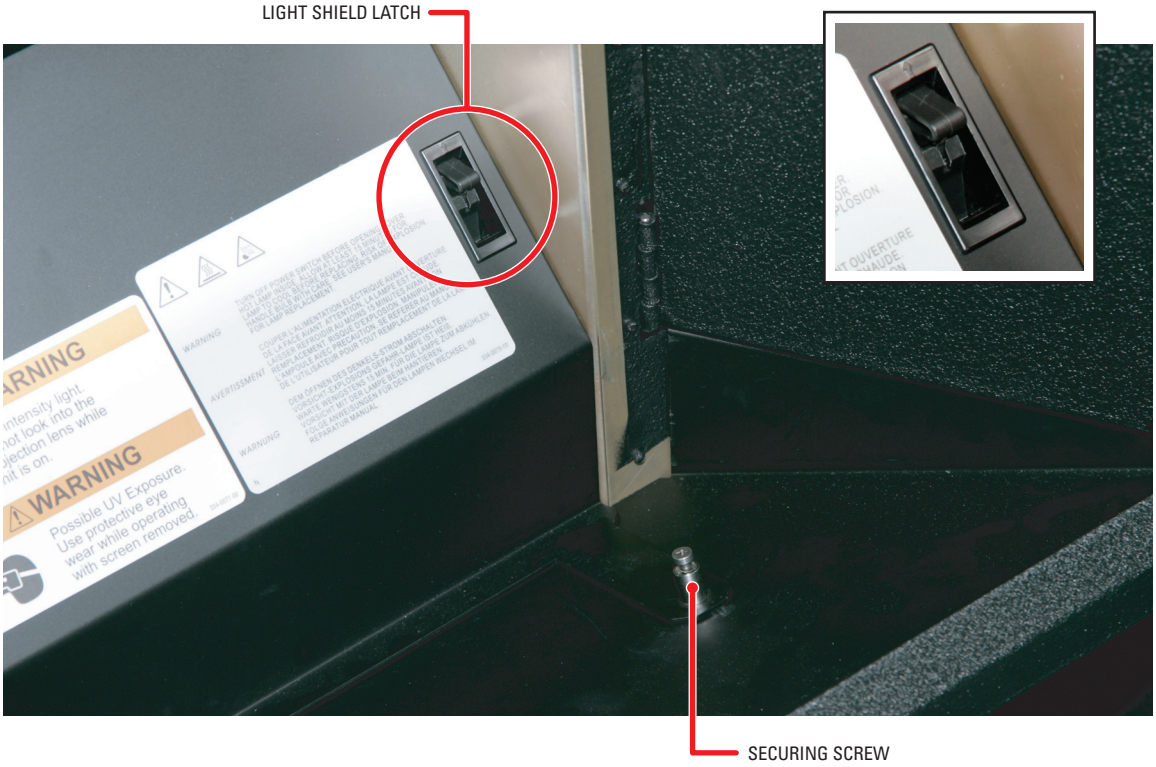


Figure 38. Light Shield Latch and Securing Screw

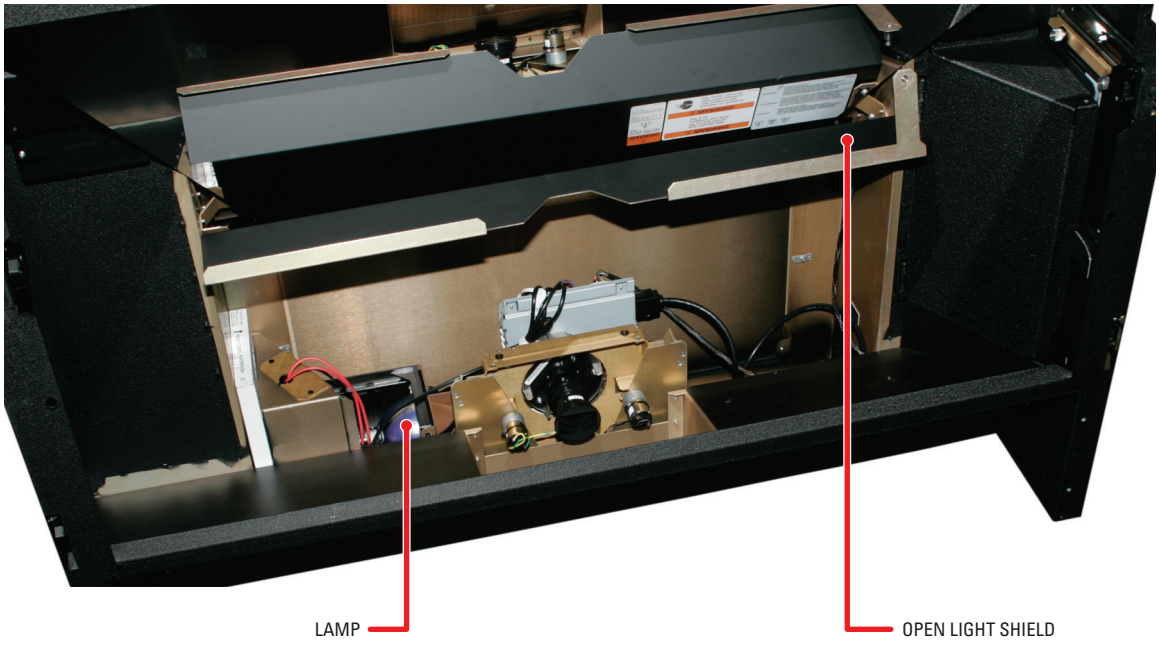


Figure 39. Opened Light Shield and Lamp

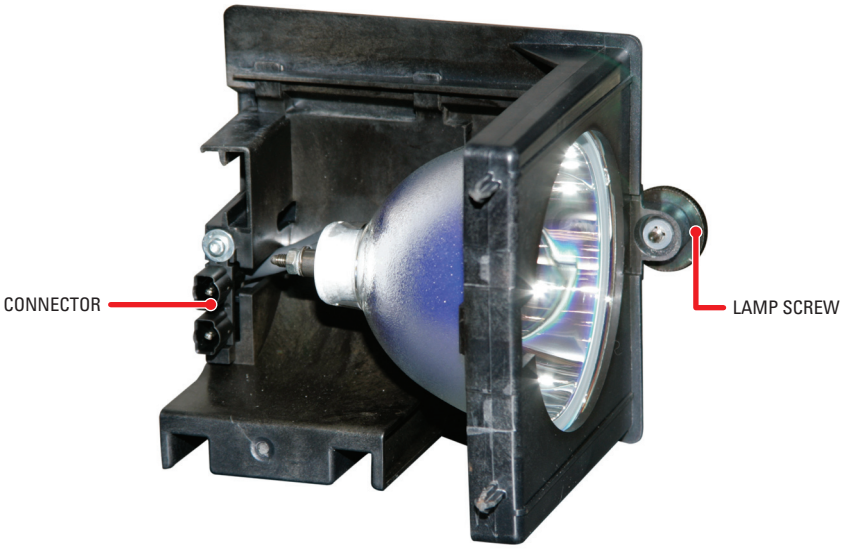


Figure 40. Lamp Detail

REMOVING THE LAMP FROM THE REAR

⚠ **DANGER:** Turn off and disconnect power from the unit before replacing the lamp. Voltage present at the lamp can cause serious injury or death.

1. To change the lamp from the rear, refer to Figure 40 and Figure 41 and do the following:
2. Turn off the AC power switch, and then remove the cord. Refer to the *Shut-down Sequence* section.
3. Remove the six 1/4-turn screws located on the rear panel.
4. Loosen the lamp screw on the right rear of the lamp.
5. Move the lamp to the rear about 3/8 of an inch (1 cm) and then right.
6. Lift the lamp out, still connected to the electronics module.
7. Disconnect the lamp cable.

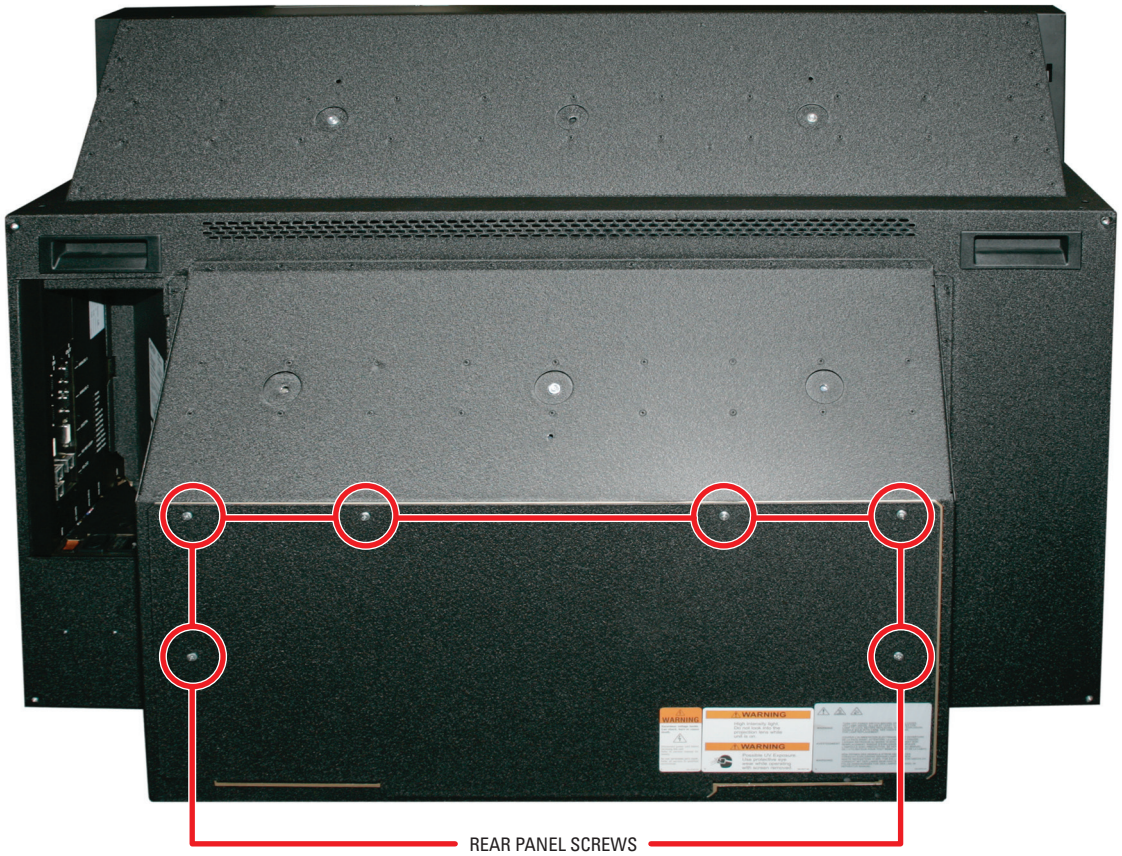


Figure 41. Rear Panel Screws

REPLACING THE LAMP

⚠ **WARNING:** Ensure that the lamp is fully seated on the lamp plug. Failure to ensure this may cause improper operation, leading to the lamp overheating.

1. Plug in the lamp cable, making sure it is fully seated.
2. Mount the lamp into place by aligning the two pins opposite the lamp screw into the holes located on the top of the optical engine.
3. Tighten the lamp screw into the threaded bracket on top of the optical engine.
4. Close the system by applying steps from the removal method used (front or rear) in reverse.

RESET LAMP HOURS

After replacing the lamp, resetting the lamp hours will provide an accurate count of the number of hours the lamp has been on. Refer to Figure 42 and do the following:

1. Press MENU on the remote.
2. Scroll down to Diagnostics.
3. Press +.
4. Scroll down to Hours, and then press +. The following items will be displayed:

   System Time: The number of hours the electronics module has received power.

   Running Time: The total number of hours a lamp has been on.

   Lamp: The total number of hours the current lamp has been on.
5. Press ENTER to reset the Lamp hours.
6. "Confirm Lamp hour reset" and "Are you sure yes/no?" will appear. Use the ◀ and ▶ buttons on the remote to choose the yes or no option.
7. Press ENTER. If yes is selected, the Lamp value will now display all zeros. No other values can be reset in this menu.
8. Press MENU to close the menu.

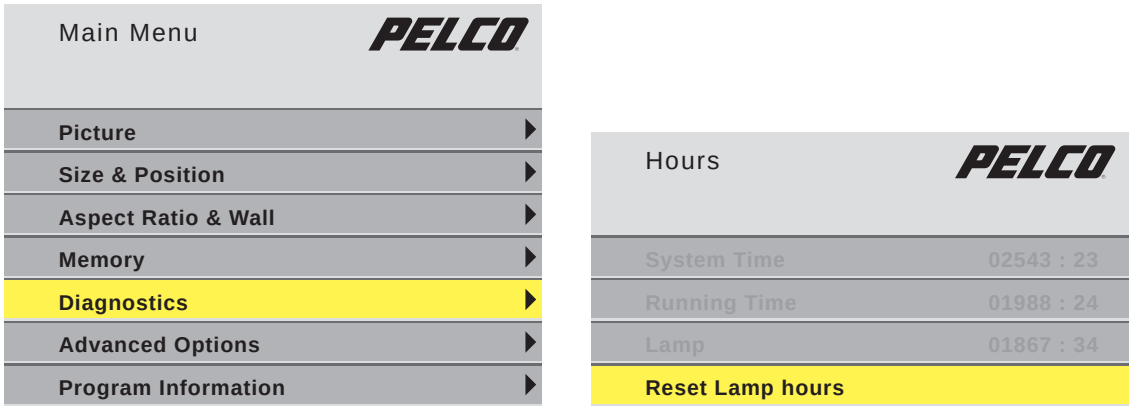


Figure 42. Resetting the Lamp Hours

CHANGING THE AIR FILTER

Clean, cool air is vital for the proper operation of the PMCD750 display. The interval for changing the air filter is dependent upon the environment that the display is used in. To determine the appropriate change interval, remove, inspect, and make a notation of the filter after three months of operation. Repeat this process again after six months of operation. If changing the filter is not necessary after six months, repeat the inspection after one year of operation. Based upon these observations, an appropriate replacement schedule can be established. The air filter can be replaced from the front or rear of the unit.

REMOVING THE AIR FILTER FROM THE FRONT

Refer to Figure 38 and Figure 43 and do the following:

1. Turn off the AC power switch, and then remove the cord. Refer to the *Shut-down Sequence* section.
2. Open the screen. Refer to the *Opening a Screen Temporarily for Work* section.
3. Loosen the screw securing the light shield.
4. Lift the light shield up, and then latch it open.
5. Lift out the air filter, tilting it toward the front of the chassis while lifting.

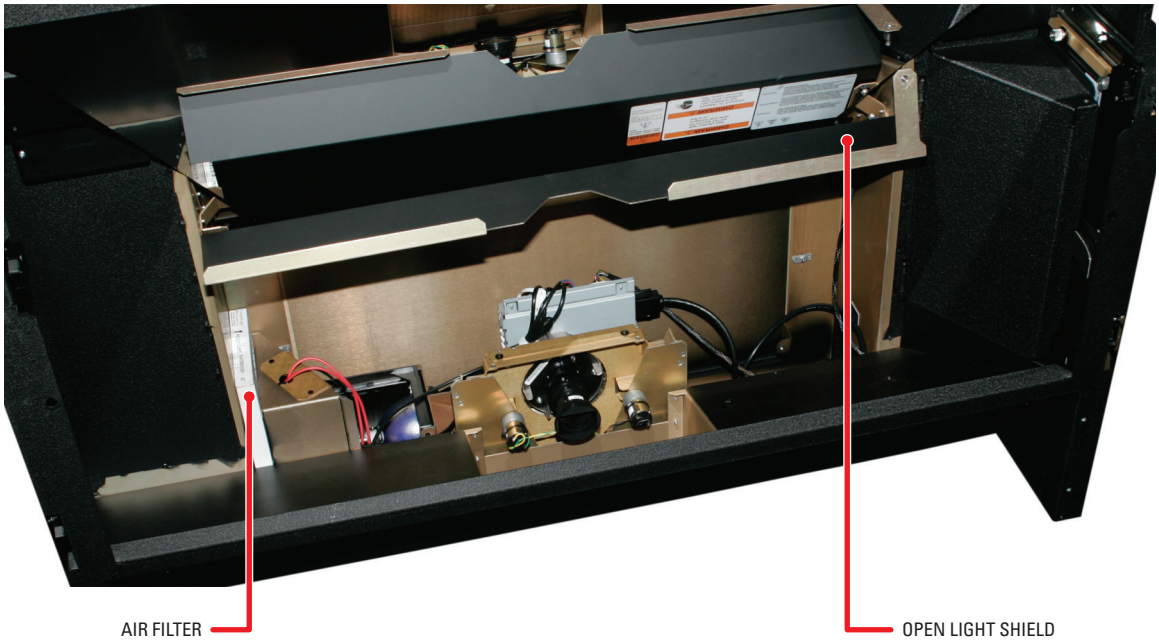


Figure 43. Open Light Shield and Air Filter

REMOVING THE AIR FILTER FROM THE REAR

Refer to Figure 41 and do the following:

1. Turn off the AC power switch, and then remove the cord. Refer to the *Shut-down Sequence* section.
2. Remove the six 1/4-turn screws located on the rear panel.
3. Push the electronics module door open.
4. Reach through the opened electronics module door and loosen the light shield screw.
5. Push the light shield up until it latches out of the way.
6. Lift the air filter up and toward the front of the chassis, away from you.

CLEANING THE SCREEN AND MIRRORS

Periodic cleaning of the screens, mirrors, and lens is necessary to maintain a high quality image on the PMCD750 display. Environmental conditions will dictate the frequency of this type of maintenance.

⚠ **WARNING:** Do not spray liquid of any kind on the screen. If sprayed directly on the screen, liquid will drip down and wick up between the layers of the screen. This discoloration is impossible to remove and will ruin the screen. First spray the cleaner on a cloth, and then clean the screen.

When particles of dirt appear in the image, use a white test image to clarify the location and sharpness of the contaminates. Small specs of dirt or dust that are in very sharp focus will indicate the screen needs cleaning; those that are softer in focus indicate that the large mirror needs cleaning.

For mirrors and screens, any glass cleaner (foam or spray) that is designed for use on glass and acrylic surfaces is acceptable.

White cotton cloth is preferrable to colored cloth due to the coloring dyes making the cloth less absorbent. Cheesecloth is another effective choice because it is light and absorbant. Paper towels leave behind lint and should be avoided.

REMOVING DRY DUST

When cleaning does not involve fingerprints or other oily dirt, use a dry cheesecloth or any cleaning product designed specifically for picking up dust.

CLEANING THE LENSES

The lenses are cleaned in the same manner as the mirrors.

Troubleshooting

There are several methods that can be used to determine nature of a functional problem with the PMCD750 display.

ON-SCREEN CODES

The on-screen code is a sequence of of red and amber lights that can flash on the screen to indicate current status or if a fault exists. If Auto Codes was selected in the miscellaneous menu during adjustment, the code will be automatically displayed whenever there is a fault that forces the lamp off. Refer to the *Input Level Adjustment, Automatic* section for setup options.

To activate the on screen code manually, press MONITOR on the remote. There should be red or amber lights flashing. Refer to Table A for code definitions. If the lamp is functioning, the Display Status menu will appear.

If the flashing lights are not visible, repeatedly press CURTAIN on the remote to make the screen background black.

If there is a steady amber light with no video, check the following:

- The Curtain (internal) image color. Press CURTAIN repeatedly on the remote to toggle the background display.
- The source (external) image color.The source image is be black.
- The absence of a source. This produces a black screen.
- Foreign object. A foreign object blocking the light path inside the display.

Table A. On-Screen Codes

	Condition	Priority	Each block represents 0.2 seconds															
Starts with red; lamp is off	Door open	1	R		R		R											See footnote 1
	Power supply fan failed	2	R		Amber													
	DLP fan failed	3	R		Amber			R										
	350V failed	4	R		R		Amber											
	Optical engine failed	5	R		R		Amber			R								
	Lamp failed	6	R		R		R		R									
	Lamp off (wait, auto off)[2]	7	R		R			Amber				Amber						
	Wait (lamp off, cooling)	8	R		R			R		R								
Starts with amber	Lamp off (lamp saver)[3]	9	Amber					Amber				R						
	Lamp off (ready to turn on)	10	Amber					Amber										
	Lamp striking (starting)	11	Amber					Amber				Amber						
	Lamp on, no alarms	12	Amber on continuously															

R = Red To show the code, press MONITOR button once.

[1]With Priority 1-6, to turn lamp on, cycle off, and then on. If Auto Codes in the Miscellaneous menu is checked, events with Priority 1-5 start the on-screen code automatically.

[2]Lamp Saver turned lamp off; lamp is cooling and will turn on at end of cooling period.

[3]A Lamp On command from the remote or from RS-232 commands will turn lamp on.

INSIDE LEDS

The LEDs located on the electronics module will provide information on the current state of the unit.

The LEDs are readily visible from the rear of the display, located on the left side of the chassis with the input connectors. Refer to Figure 44. Refer to Table B for LED code definitions.

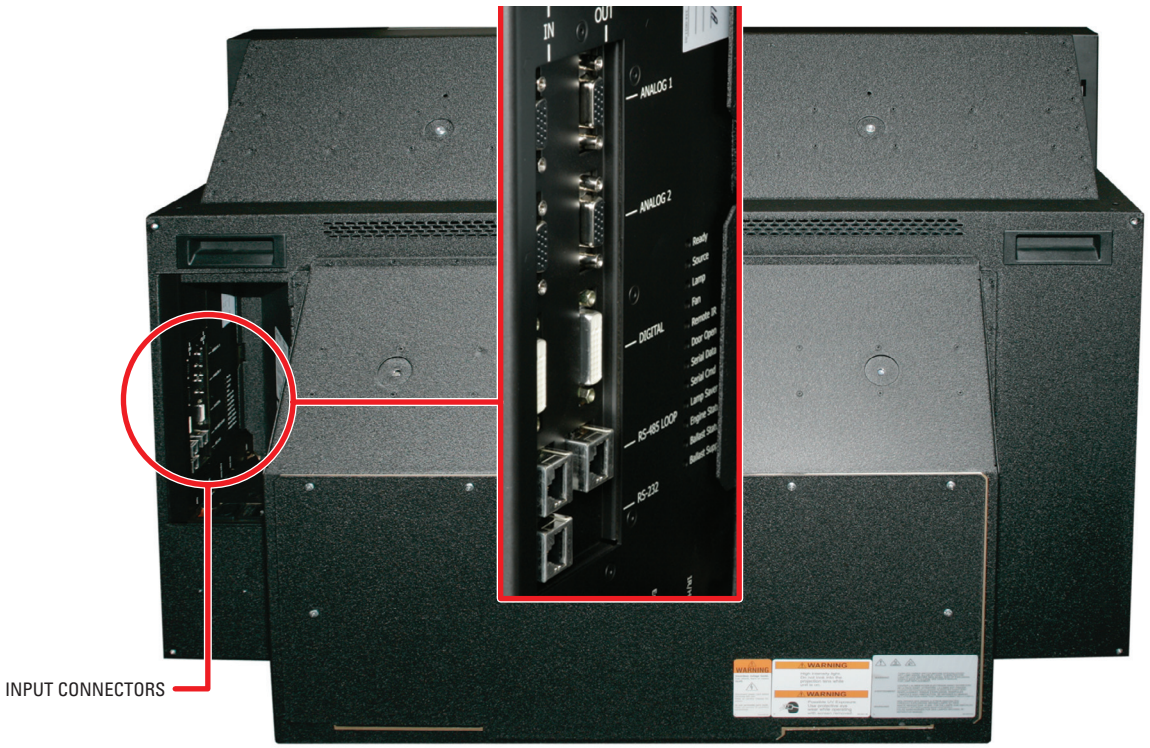


Figure 44. Rear View of Input Panel and LEDs

To view the LEDs from the front of the display, open the screen. Refer to the *Removing or Opening a Screen* section. After opening the screen, open the electronics module door located on the right side of the chassis. Refer to Figure 45.

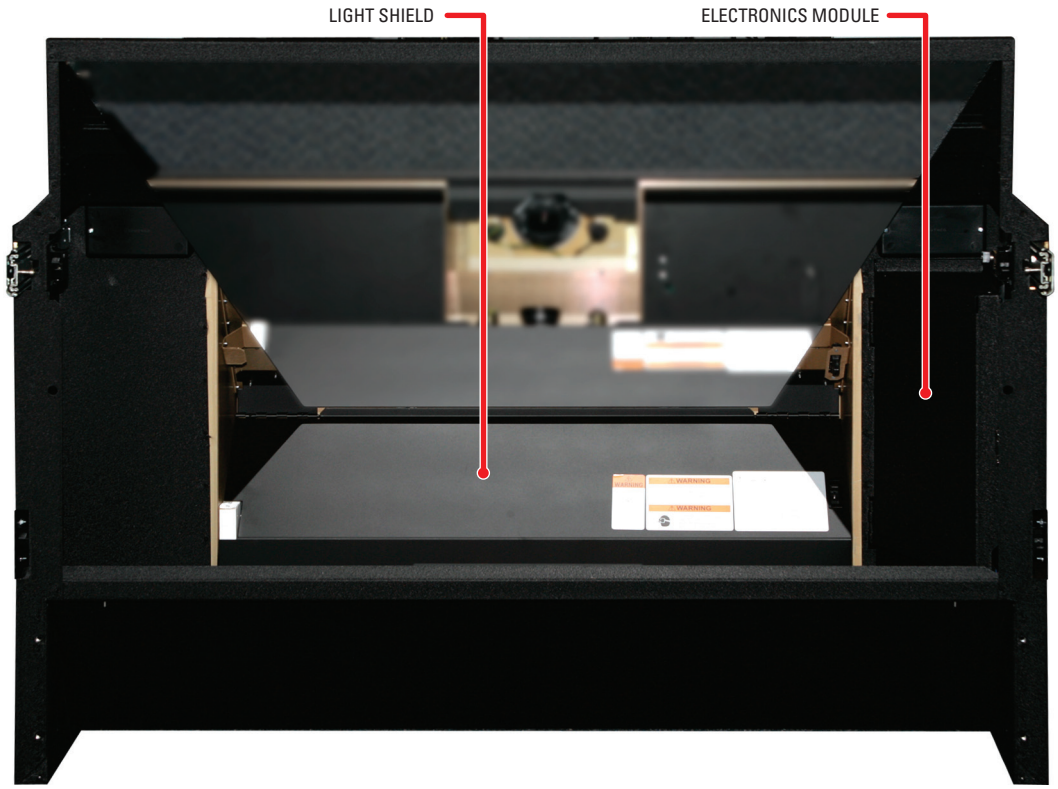


Figure 45. Light Shield and Electronics Module

Table B. LED Code Chart

LED Name	When the LED is…			
	Off	**Green**	**Amber**	**Red**
Ready	Lamp is on (or no power)			
Source	No power to the electronics module	Valid source is present		Source absent or not valid
Lamp	Lamp off	Lamp on	Lamp strike	Lamp failed
Fan	Fan off	Fan is running	Fan failed recently, but is now running	Fan failed Lamp disabled
Remote IR	Not receiving IR now	Receiving any IR radiation		
Door Open (refers to rear panel and electronics module door)	No power to electronics	Door closed & rear panel closed Lamp enabled	Either door was open, now closed Must cycle AC power to reset and enable lamp	Either door open Lamp disabled
Serial Data	No command received	Received any command		
Serial Cmd		Received command "meant for me"		
Lamp Saver	Lamp Saver not active or lamp is off	Lamp Saver active Source present Lamp on	Active Lamp is cooling Source present Lamp will come on when cooled	Active Source absent Lamp off
Optical Engine Status		Optical engine OK		Optical engine fault or communication failure
Ballast Status[1]	Lamp off	Lamp on		Ballast fault or communication failure
Ballast Supply[2]	High voltage (HV) off	HV on and ready	HV on, not ready yet	Had to wait more than 10 seconds for ready state

[1]At this writing, Ballast Status LED is not implemented, so it is always off.
[2]At this writing, Ballast Status LED will show Red state only briefly.

Specifications

GENERAL

Display Resolution	1280 x 720 pixels (720 progressive)
Aspect Ratio (W/H)	16:9
Screen Dimensions	
Diagonal	50" (127 cm)
Width by Height	43.5" x 24.5" (110.5 x 62.2 cm)
Screen Type	High contrast acrylic
Viewing Angle (1/5th Gain)	+/- 45° (H/V)
Border (Mullion)	<1mm
Brightness	350 nits (102 ftL)
Brightness Uniformity	>80%
Contrast Ratio	Full field, 1,000:1
Lamp Type	120W UHP
Lamp Life	6,000 hours
Colors	16.7 million
Color Gamut	>70% NTSC, >100% EBU color
Display Technology	Single chip HD2+ DLP
Ambient Noise	36 dB
Display Control	RS-232, RS-485, and IR remote

ELECTRICAL

Input Voltage	Autoswitching, 100-120/200-240 VAC, 50/60 Hz
Power Consumption	160 W
Data Input	
Analog	2 x HD15 (supports 420p, 480p, 720p, 1080i HD formats and RGBHV) with loop through
Digital	DVI-D with loop through

PHYSICAL

Cabinet Dimensions	43.6" W x 32.5" H x 17.5" D (110.7 x 82.6 x 44.5 cm)
Maximum Tilt	15°
Maximum Stack Height	4 units (more than 2 units require tie back support; not included)
Unit Weight	68 lb (30.84 kg) approximate
Unit Shipping Weight	90 lb approximate

ENVIRONMENTAL

Operating Temperature	32° to 104°F (0° to 40°C)
Operating Humidity	20% to 80% noncondensing

PRODUCT WARRANTY AND RETURN INFORMATION

WARRANTY

Pelco will repair or replace, without charge, any merchandise proved defective in material or workmanship **for a period of one year** after the date of shipment.

Exceptions to this warranty are as noted below:

- Five years on FT/FR8000 Series fiber optic products.
- Three years on Genex® Series products (multiplexers, server, and keyboard).
- Three years on Camclosure® and fixed camera models, except the CC3701H-2, CC3701H-2X, CC3751H-2, CC3651H-2X, MC3651H-2, and MC3651H-2X camera models, which have a five-year warranty.
- Two years on standard motorized or fixed focal length lenses.
- Two years on Legacy®, CM6700/CM6800/CM9700 Series matrix, and DF5/DF8 Series fixed dome products.
- Two years on Spectra®, Esprit®, ExSite™, and PS20 scanners, including when used in continuous motion applications.
- Two years on Esprit® and WW5700 Series window wiper (excluding wiper blades).
- Two years (except lamp and color wheel) on Digital Light Processing (DLP™) displays. The lamp and color wheel will be covered for a period of 90 days. The air filter is not covered under warranty.
- Eighteen months on DX Series digital video recorders, NVR300 Series network video recorders, and Endura™ Series distributed network-based video products.
- One year (except video heads) on video cassette recorders (VCRs). Video heads will be covered for a period of six months.
- Six months on all pan and tilts, scanners or preset lenses used in continuous motion applications (that is, preset scan, tour and auto scan modes).

Pelco will warrant all replacement parts and repairs for 90 days from the date of Pelco shipment. All goods requiring warranty repair shall be sent freight prepaid to Pelco, Clovis, California. Repairs made necessary by reason of misuse, alteration, normal wear, or accident are not covered under this warranty.

Pelco assumes no risk and shall be subject to no liability for damages or loss resulting from the specific use or application made of the Products. Pelco's liability for any claim, whether based on breach of contract, negligence, infringement of any rights of any party or product liability, relating to the Products shall not exceed the price paid by the Dealer to Pelco for such Products. In no event will Pelco be liable for any special, incidental or consequential damages (including loss of use, loss of profit and claims of third parties) however caused, whether by the negligence of Pelco or otherwise.

The above warranty provides the Dealer with specific legal rights. The Dealer may also have additional rights, which are subject to variation from state to state.

If a warranty repair is required, the Dealer must contact Pelco at (800) 289-9100 or (559) 292-1981 to obtain a Repair Authorization number (RA), and provide the following information:

1. Model and serial number
2. Date of shipment, P.O. number, Sales Order number, or Pelco invoice number
3. Details of the defect or problem

If there is a dispute regarding the warranty of a product which does not fall under the warranty conditions stated above, please include a written explanation with the product when returned.

Method of return shipment shall be the same or equal to the method by which the item was received by Pelco.

RETURNS

In order to expedite parts returned to the factory for repair or credit, please call the factory at (800) 289-9100 or (559) 292-1981 to obtain an authorization number (CA number if returned for credit, and RA number if returned for repair).

All merchandise returned for credit may be subject to a 20% restocking and refurbishing charge.

Goods returned for repair or credit should be clearly identified with the assigned CA or RA number and freight should be prepaid. Ship to the appropriate address below.

If you are located within the continental U.S., Alaska, Hawaii or Puerto Rico, send goods to:

Service Department
Pelco
3500 Pelco Way
Clovis, CA 93612-5699

If you are located outside the continental U.S., Alaska, Hawaii or Puerto Rico and are instructed to return goods to the USA, you may do one of the following:

If the goods are to be sent by a COURIER SERVICE, send the goods to:

Pelco
3500 Pelco Way
Clovis, CA 93612-5699 USA

If the goods are to be sent by a FREIGHT FORWARDER, send the goods to:

Pelco c/o Expeditors
473 Eccles Avenue
South San Francisco, CA 94080 USA
Phone: 650-737-1700
Fax: 650-737-0933

This equipment contains electrical or electronic components that must be recycled properly to comply with Directive 2002/96/EC of the European Union regarding the disposal of waste electrical and electronic equipment (WEEE). Contact your local dealer for procedures for recycling this equipment.

REVISION HISTORY

Manual #	Date	Comments
C2928M	7/05	Original version.

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